

# INDEX OF AUTHORS

- Abildskov, J. A., 451  
 Adams, F. H., 396  
 Aderlsberg, D., 234  
 Aleksandrow, D., 933  
 Anderson, R. M., 427, 881  
 Angelino, P. F., 360  
 Applebaum, H. I., 208
- Baer, L. J., 190  
 Bailey, C. P., 587  
 Barger, A. C., 273  
 Becker, M. C., 17  
 Baronofsky, I. D., 910  
 Belter, L. F., 254  
 Bernstein, S., 881  
 Besterman, E. M. M., 823  
 Birkhead, N. C., 574  
 Bloodwell, R. D., 1003  
 Blumgart, H. L., 286, 325, 807  
 Bogdonoff, M. D., 353  
 Bosher, L. H., Jr., 254  
 Braunwald, E., 181, 561, 875, 1003  
 Breall, W. S., 1049  
 Brest, A. N., 587  
 Brofman, B. L., 850  
 Bronk, T. T., 1128  
 Bruetsch, W. L., 438  
 Bryant, G. D. N., 353  
 Buchholz, J. H., 1037  
 Burchell, H. B., 66, 1095  
 Burwell, C. S., 606
- Caceres, C. A., 229  
 Campbell, J. A., 1079  
 Caris, T. N., 928  
 Carter, S. A., 574  
 Charms, B. L., 208, 850  
 Chavez, I., 481  
 Christensen, R. C., 190  
 Church, G., 549  
 Clagett, O. T., 1095  
 Cohen, H., 918  
 Cohen, S., 96  
 Collins, N. P., 561  
 Cooley, D. A., 168  
 Combs, J. J., 353  
 Connolly, D. C., 1095  
 Cosma, J., 267  
 Couch, O. A., Jr., 251  
 Cranston, W. I., 1133  
 Crawford, E. S., 168  
 Crittenden, I. H., 396  
 Crymes, T., 413  
 Cutshall, V., 267
- Danaraj, T. J., 856  
 De Bakey, M. E., 168  
 DeFazio, V., 190  
 Dickens, J., 201  
 Dickerson, R. B., 928  
 Dimond, E. G., 286  
 Dontas, N., 587  
 Dry, T. J., 1095  
 DuShane, J., 554, 842
- Edwards, J. E., 554  
 Effler, D. B., 128  
 Eisenberg, R., 490  
 Escudero, E., 405
- Farah, A., 451  
 Faulk, A. T., 367  
 Feinberg, A. W., 1106  
 Feldman, E. B., 234  
 Ferrer, M. I., 442  
 Feruglio, G. A., 1087  
 Fidh, R. G., 413  
 Fields, W. S., 168  
 Finkelstein, A., 17  
 Finnerty, F. A., Jr., 569, 1037  
 Fitzpatrick, D. P., 1111  
 Ford, A. B., 537  
 Freiman, D. G., 864  
 Freis, E. D., 1028  
 Frumin, A. M., 367
- Geller, J., 208  
 Goldberg, H., 201  
 Good, C. A., 1095  
 Gousious, A., 1063  
 Graettinger, J. S., 1079  
 Grayzel, J., 1053  
 Greene, C. R., 906  
 Griep, A. H., 30  
 Griffith, G. C., 881  
 Groch, S. N., 215
- Hahneman, B., 887  
 Hajjar, G. T., 1037  
 Hamlin, J. T., 422  
 Hanenson, I. B., 498  
 Harvey, R. M., 442  
 Harvey, W. P., 286  
 Hecht, A. M., 1111  
 Hellem, H. K., 190  
 Hellerstein, H. K., 537  
 Helmholtz, H. F., Jr., 381, 391  
 Hickler, R. B., 422  
 Horst, A., 933  
 Hultgren, H. N., 490
- Irmieri, V. J., 590
- Jawetz, E., 430  
 Jick, H., 262  
 Jolliffe, N., 109  
 Jolly, E. R., 1  
 Juhl, J. H., 831
- Kantor, M., 371  
 Katz, L. N., 997  
 Kay, J. H., 427, 881  
 Kelly, J. J., Jr., 906  
 Kelly, J. R., 831  
 Kelser, G. A., Jr., 229  
 Kohn, P., 208  
 Kohn, P. M., 850  
 Kreel, I., 910
- Langdorf, R., 997  
 Lax, H., 1106  
 Lenkei, S. C., 842  
 Lertzman, M., 864  
 Levi, V., 360  
 Lewis, L. A., 1011  
 Lewis, R., 881  
 Lewis, R. R., 427  
 Liebowitz, M. R., 273  
 Linenthal, A. J., 262, 595  
 Lo Bue, B., 360  
 Logue, R. B., 286  
 Long, R. T. L., 875  
 Lown, B., 161  
 Lyons, R. H., 451
- McCormack, L. J., 128  
 McCue, C. M., 254  
 McDermid, W. J., 128  
 McDevitt, E., 215, 405  
 McGill, H. C., Jr., 1118
- Magidson, O., 881  
 Maranhao, V., 201  
 Marienfeld, C., 887  
 Marriott, J. L., 549  
 Marshall, R. J., 391  
 Maruyama, Y., 267  
 Massaro, G. D., 569, 1037  
 Meihaus, J., 881  
 Mendell, T. H., 367  
 Miller, B. F., 498  
 Miller, R. A., 887  
 Millikan, C. H., 56  
 Mintz, S. S., 367  
 Mize, W. R., 229

- Moe, G. K., 451  
 Morita, Y., 190  
 Morris, G. C., Jr., 168  
 Morrow, A. G., 181, 561, 875, 1003  
 Moser, K. M., 42  
 Moses, C., 511, 520, 527  
 Muenster, J. J., 1079  
 Mulder, D. G., 396  
 Muldowney, F. P., 273  
  
 Nadas, A. S., 602  
 Novack, P., 367  
  
 O'Donnell, T. V., 823  
 Ong, W. H., 856  
  
 Padmavati, S., 343  
 Page, I. H., 1011, 1075  
 Pathak, S. N., 343  
 Peters, R. L., 1003  
 Pettet, J. R., 267  
 Pfaff, W. W., 875  
 Pick, A., 997  
 Pitt, B., 812  
 Polasky, N., 498  
 Proudfit, W. L., 128  
 Provenza, D. V., 35  
  
 Ransohoff, W., 498  
 Rasmussen, H. K., 831  
 Regan, T. J., 190  
 Rehder, K., 224  
 Reinberg, M., 427  
 Reiner, L., 864  
 Reimer, S. M., 864  
 Richardson, D. W., 1111  
  
 Rivkin, L. M., 419  
 Roberts, J. C., Jr., 511, 520, 527  
 Robin, E. D., 606  
 Rodbard, S., 1128  
 Ross, L. J., 327  
 Roth, G. M., 224  
 Rothfeld, E. L., 17  
 Rushmer, R. F., 897  
 Russell, H. K., 371  
 Ryan, M., 569  
  
 Sayre, G. P., 56  
 Scherlis, S., 35  
 Schneckloth, R. E., 1075  
 Selzer, A., 243  
 Semler, H. J., 381  
 Shaffer, A. B., 1049  
 Shearn, M. A., 1063  
 Shepherd, J. T., 381, 391  
 Shoshkes, M., 17  
 Sigda, F., 569  
 Sobel, H. J., 910  
 Sokolow, M., 286  
 Somerville, W., 823  
 Southworth, H., 946  
 Siew, S., 918  
 Silverstein, A., 4  
 Smith, C. C., 17  
 Smith, J. M., 887  
 Smith, R. D., 554  
 Spodick, D. H., 1067, 1073  
 Sreenivasan, A., 1087  
 Stare, F. J., 161  
 Starr, I., 74, 807  
 Strong, J. P., 1118  
 Swan, H. J. C., 66, 842  
  
 Takaro, T., 413  
 Tapia, F. A., 128  
 Taussky, H. H., 498  
 Thomas, C. B., 25  
 Tuckman, J., 1037  
 Turell, D. J., 537  
  
 Uhley, H. N., 419  
 Uricchio, J. F., 587  
  
 van Buchem, F. S. P., 88  
 Vasli, S., 254  
  
 Wachtel, F. W., 17  
 Wainwright, J., 1118  
 Wakim, K. G., 56  
 Waldhausen, J. A., 1003  
 Wang, C., 234  
 Warren, J. V., 353  
 Wasserburger, R. H., 831  
 Weiser, N. J., 371  
 Wells, R. E., Jr., 422  
 Wessler, S., 864  
 Whisnant, J. P., 56  
 Wilkins, R. H., 511, 520, 527  
 Willard, J., 887  
 Wilson, I. M., 1028  
 Wolferth, C. C., 321  
 Wood, E. H., 66, 381, 574  
 Wood, J. E., 1043  
 Wright, I. S., 215, 405  
 Wyso, E. M., 1111  
  
 Zaroff, L. I., 910  
 Zettner, A., 590

## INDEX OF SUBJECTS

*Page numbers in italics indicate abstracts*

### A

#### Abdominal

- angina, 667
- aortography, 147
- intravenous, 774
- venous thrombosis in cardiac patients, 145
- wall defects in congenital syndrome, 396-404

#### Abscess of heart, 590-594

#### Acenocoumarin, anticoagulant action of, 616

#### Acetazolamide

- action of, 134, 303, 467
- diuretic activity in heart failure, 766
- renal response to, adrenal steroids, affecting, 140

#### Acetylcholine

- cardiac arrest from, artificial pacemaker controlling, 726
- effect on atria, 721
- effect on atrioventricular node fibers, 471
- effect on pulmonary vascular resistance, 381-394
- intracardiac infusion, and rheumatic heart disease, 671
- pulmonary vascular effects of, 381-394, 719

#### Acid-base abnormalities, with pump oxygenator in open surgery, 711

#### Acidosis

- in hypothermia after total circulatory occlusion, 685
- from lactic acid, 715
- mercurial diuresis in, 958

#### Acromegaly, hypertension in, 956

#### ACTH, effect on plasma steroid levels in hypertension, 680

#### Adenosine triphosphate, effects on electrical activity of heart, 623

#### Adrenal gland

- absence of, and nephrosclerosis and hypertension, 986
- catecholamines in granules of medulla, 306
- regeneration hypertension, and corticosterone sensitivity, 772
- steroids, *see also* Cortisone and Steroids
- effects in heart failure, 705
- effects on plasma steroid levels in hypertension, 680

- effects on renal response to acetazolamide, 140
- in evaluation of enlarged mediastinal image, 674
- in urine, in hypertension, 700

#### Adrenalectomy, and plasma epinephrine after phenoxylbenzamine, 622

#### Adrenalin, *see* Epinephrine

#### Adrenergic

- blockade, by dihydro analog of isoproterenol, 136
- influences on heart, 135

#### Age factors

- in aortic intimal thickening, 285
- in blood pressure, 774

#### Albumin, serum, radioactive iodinated, in cardiac output determinations, 734

#### Alcohol administration, and fat diet, effects on serum cholesterol, 985

#### Aldosterone, 147

- role in fluid retention in diseases, 303
- secretion

- and arterial hypertension, 725

- in heart failure, 277
- after vena cava constriction, 465

#### Alginic acid, sulfated, in hyperlipemia and hypercholesterolemia, 680

#### Alimentary lipemia, *see* Lipemia

#### Alkalosis, mercurial diuresis in, 958

#### Altitude, high, and myocardial infarction, 1150

#### Alveolar air, ammonia in, 307

#### American Heart Association

- Angiology Society renamed, 317
- Arteriosclerosis Council proceedings, 964-993, *see also specific papers listed throughout index*

#### Assembly Meeting, 315, 475

- Associations supplement research support, 315, 639
- awards

- applications for, 148, 315, 475, 639
- for arthritis study, 317
- Gold Heart Awards presented, 962
- grants-in-aid listed, 151-158
- Lasker Award presented, 962
- Life Insurance Fund for, 150

- total awards for year, 148
- booklet on home care of RF child, 316

#### Cardiology in Aviation Medicine Symposium, 639

#### Chicago meeting of Arteriosclerosis Council, 476

#### films on stroke management, 962

#### health agency fund appeals, 638

#### Heart Bulletin

- articles of interest in, 476
- exercise test materials in, 316

#### Heart in Industry Proceedings, 639

#### journals to be published by AHA, 314

- Publishing Director for, 475
- meetings calendar, 150, 317, 476, 640, 963

#### Mexico cardiology meetings, 150

#### Scientific Sessions Proceedings, 645-799

- abstracts of papers, 658-789, *see also specific papers listed throughout index*

#### committees, 646

#### industrial exhibits, 794-799

#### program, 647-657

#### scientific exhibits, 790-793

#### slide kit for physician speakers, 316

#### United Funds and Heart Fund campaign, 476

#### Amines

- catechol, *see* Catecholamines
- pressor

- effects in shock, 717
- smoking affecting, 225

#### Aminophylline, effect on lung mechanics, 769

#### Aminopterin, in atherosclerosis, 988

#### Aminouracil derivatives, diuretic action of, 303

#### Ammonia

- in alveolar air, 307
- excretion by lung, 473

#### Amphetamine, effects on renal vessels, 135

#### Amyl nitrite, effect on pulse pressure, 569, 573

#### Anastomosis

- aortic-pulmonary, in tetralogy of Fallot, effects of, 749
- coronary, 702, 786, 812-814, 816-821, 1149

**Anemia**

- oligemic, effects of, 695
- sickle cell
  - in children, 770
  - peripheral circulation in crisis, 735

**Anesthesia, pneumothorax during,**

- effects of, 719

**Anesthetization of A-V node, effects of,**

- 308

**Aneurysm**

- aortic
  - dissecting, 147
  - surgery in, 684
  - persistent experimental, 983
- of brain arteries, and arteriovenous angioma, 635
- coronary artery, congenital, 1147
- of extremities, mycotic, ruptured, 718
- of sinus of Valsalva, rupture of, 633
- of splenic artery, 146
- ventricular, with tachycardia, surgery in, 251-253

**Angelicallactone, and ventricular potassium balance,**

- 466

**Angiitis, necrotizing, cutaneous forms of,**

- 466

**Angina, abdominal,**

- 667

**Angina pectoris**

- Ca tron therapy, 617
- iproniazid in, 1-3, 17-23
- mammary artery ligation in, 701
- with obliterating coronary arteriosclerotic heart disease, surgery in, 683
- Recordil therapy, 958
- gram, 619
- S-T deviations in electrocardiography
- thyroid therapy and vitamin B factors in, 761

**Angioaortography, 173****Angiocardiography**

- cardiac reactions to, 142
- in congenital anomalies, 473
- in coronary arteriovenous fistula, congenital, 700
- in dextrocardia, 664
- in persistent ductus Botalli, 626
- retrograde, pressure recordings with, 141
- in Takayasu's disease, 267-271
- timing methods in, 142
- in ventricular septal defect, 626

**Angiography**

- cerebral
  - complications of, 312
  - intravenous, 774
- coronary, 312

- demonstrating intercoronary arterial anastomoses, 674

**Angioma, arteriovenous, and sacular aneurysm of brain arteries,**

- 635

**Angiospasm, cerebral,**

- 681

**Angiotensin in blood, estimation of,**

- 621

**Angiotensin II, properties of,**

- 694

**Anomalies, see Congenital Anomalies****Anoxia, see Oxygen****Anticoagulants, see Coagulation****Antidiuretic activity in blood after neurohypophysis stimulation,**

- 305

**Antidiuretic hormone action,**

- 147

**Aorta**

- abdominal, arteritis of, in children, 856, 862

**aneurysm**

- dissecting, 147
- surgery in, 684
- persistent experimental, 983
- artificial, 722
- atheromatous plaques in, 985
- atherosclerosis
  - autopsy studies, 516, 524
  - sex hormones affecting, 993
- cinefluorography, brachial, 704
- coarctation

- brachial aortic cinefluorography in, 704

- configuration of aortic elastic tissue in, 134

- in infants, 710

- and patent ductus arteriosus, 668

- multiple and infraductal, 910-916

- renal hemodynamics in, 625

- descending, stenosis of, 634

- elasticity in strips, 747

- fatty streaks in, grading, 983

- fistula with right ventricle, 1128-1131

- immunochemical reactions of lipoproteins in wall, 978

**intima**

- cortisone affecting repair in hypercholesteremia, 616

- fatty acids in cholesterol esters of, 972

- thickening with aging, 285

- lipid material in, 972

- occlusive disease of, surgical considerations in, 144

- pitressin and isoproterenol affecting electrolytes, 624

- pressure-volume curves, dynamic, 471

- proximal, and branches, preoperative roentgenography of, 702

- radiation injury to, 636

- rupture, in Marfan's syndrome, 300

- thoracic, causing mediastinal shadows, 142

- thrombosis, 146

**Aortic-pulmonary anastomosis, in tetralogy of Fallot, effects of,**

- 749

**Aortic valve**

- commissurotomy, direct vision, 143

- congenital disease, 669

- fenestration, repair of, 587-589

- leaflet, construction of, 691

- pathologic anatomy of, 683

**regurgitation**

- estimation of, 677

- multiple indicator-dilution curves in, 724

- with rheumatoid spondylitis, 1151

- stenosis, 633, 709

- catheterization in, 144

- through carotid artery, 460

- and coronary sclerosis, 636

- functional, 181-189

- neurological disorders in, 266

- peak systolic pressures in, 1049-1052

- subaortic, familial muscular, 676

- supravalvular, 617, 1003-1010

- surgery in, 702, 723

**Aortitis, with rheumatoid spondylitis,**

- 1511

**Aortography**

- abdominal, 147

- intravenous, 774

- angioaortography, 173

- contrast media, suitability of, 468

- with large contrast media doses, renal function after, 142

- lethal pulmonary hemorrhage after, 312

- preoperative, in arteriosclerosis of lower extremities, 312

**Apexcardiogram in mitral disease,**

- 669

**Arachnodactyly, heart in,**

- 88-95

**Arcus senilis, and behavior patterns in women,**

- 759

**Arrhythmia, see Rhythm****Arterial conditions**

- arteriosclerosis, *see* Atherosclerosis

- carotid, *see* Carotid arteries

- celiac, atherosclerosis of, autopsy studies, 518, 525

- cerebral, *see* Cerebrovascular conditions

- chemical injury of, 957

- coronary, *see* Coronary arteries  
ejection in left bundle-branch block, 462  
elasticity studies, 660  
femoral, *see* Femoral arteries  
fundamental wave, nature of, 137  
grafts, 630, *see also* Grafts  
iliac  
  atherosclerosis of, autopsy studies, 516, 524  
  occlusive disease of, surgical considerations in, 144  
iliofemoropopliteal reconstruction in arteriosclerosis obliterans, 635  
intestinal wall, in hypertension, 464  
mammary  
  and coronary artery anastomoses, 702  
  ligation for angina pectoris, 701  
mesenteric  
  atherosclerosis, autopsy studies, 518, 525  
  insufficiency, 685  
mucopolysaccharides, activity of, 975, 976  
obliterative disease, 784  
  iliofemoropopliteal reconstruction in, 635  
  Relaxin therapy, 979  
obstruction, localization of, 714, *see also* Occlusion  
peripheral, *see* Peripheral vascular conditions  
prosthesis, 628, 631  
pulmonary, *see* Pulmonary arteries  
pulse wave abnormalities, in diabetes, 1106-1110  
renal, *see* Kidney, arteries  
septal artery anatomy, 1150  
splenic  
  aneurysms of, 146  
  arteriovenous fistula of, 635  
  atherosclerosis of, autopsy studies, 518, 525  
  subclavian  
    roentgenology of, 142  
    surgical anatomy of, 634  
  venoarterial pumping  
    in heart failure, 1148  
    and pulmonary hypertension, 686  
  vertebral  
    arteriography, 173  
    occlusive disease of, surgery in, 171
- Arteriography**  
  carotid, 6, 173  
  coronary  
    artificial pacemaker in, 726  
    cine-coronary, 773  
    dye-injection control in, 313  
    in ischemic heart disease, 960  
    peripheral, intravenous, 774  
    vertebral, 173
- Arteriosclerosis Council Proceedings**, 964-993, *see also* specific papers listed throughout index
- Arteriosclerosis obliterans**  
  iliofemoropopliteal arterial reconstruction in, 635  
  Relaxin therapy, 979
- Arteriovenous angioma**, and sacular aneurysm of brain arteries, 635
- Arteriovenous fistula**  
  coronary  
    congenital, 700  
    with large patent ductus, 254-260  
  femoral, effects of, 634  
  of splenic vessels, 635  
  systemic, findings in, 1079-1085
- Arteritis**  
  primary, of abdominal aorta, in children, 856-862  
  temporal, phenylbutazone in, 313
- Arthritis**, secondary hypertrophic osteoarthropathy, 132
- Atherosclerosis**, 298, 615, 1143  
  in ancient Egypt, 438-441  
  aortic  
    autopsy studies, 516, 524  
    sex hormones affecting, 993  
  autopsy studies  
    with disease states, 527-535  
    with evidence of catastrophe, 520-526  
    without evidence of catastrophe, 511-519  
  in Bantu, 1118-1126  
  breed susceptibility to, 973  
  and cardiac infarcts, 618  
  cerebrovascular  
    autopsy studies in, 518, 525  
    surgery in, 168-180  
  cholesterol in, *see* Cholesterol  
  coagulation in, 775, 991  
  coronary, *see* Coronary arteries, atherosclerosis  
  dietary factors, 29, 161-167, 982  
    butter and egg yolk, 970  
    fats, 109-125  
    ingestion rate, 969  
  early lesions in rat, 992  
  epidemiology of lesions, 974  
  fatty streaks in aorta, grading of, 983  
  folic acid antagonist affecting, 988  
  glycoeyamine in, 987  
  insulin and plaque changes, 990  
  and ischemic heart disease, 1143  
  lipids in, *see* Lipids  
  of lower extremities, preoperative aortography in, 312  
  metabolic factors in, 981  
  nicotinic acid in, 987, 1144  
  papain, 975  
  plaques in aorta, renal and coronary arteries, 985  
  in Poland, 933-942  
  pulmonary experimental atheroma, 1145  
  spontaneous, in pigeons, 973  
  thrombotic origin of, 974
- Atria**  
  acetylcholine affecting, 721  
  arrhythmias, 451-458  
  fibrillation, *see* Fibrillation, atrial  
  infarction, electrocardiography in, 730  
  left  
    effects of elevated pressure, 243-250  
    mural calcification of, 144  
    pressure pulses in myxoma, 413-418  
    rupture of sinus of Valsalva to, 427-429  
  overloadings, electrocardiography of, 619  
  septal defects  
    familial, 782  
    phonocardiography in, 490-497, 1087-1093  
    pulmonary hypertension with, 66-73  
    acetylcholine in, 383  
    in children, 744  
    closure of, pulmonary vascular resistance after, 667  
    surgery in, 242, 688  
    with transportation of great vessels, 842-848  
  tachycardia, *see* Tachycardia, atrial  
  triatrial heart, 723  
  tumors of, ultrasonic echo diagnosis of, 955
- Atrioventricular**  
  bundle visualization, 419-421  
  conduction, and myocardial anoxia, 679  
  heart block, *see* Heart block  
  node  
    acetylcholine affecting fibers, 471  
    anesthetization of, effects of, 308  
    electrical activity of single fibers, 471  
  transmission, rauwolfia alkaloids affecting, 468



**Atropine**, in atrioventricular block with coronary artery disease, 262-266

**Auditory canal variations**, and stethoscope efficiency, 706

**Auscultation**  
carotid, for intracardiac thrombus, 303  
in pulmonic stenosis, 666

## B

**Bacitracin**, effects on serum cholesterol, 979

**Ballistocardiography**  
head-foot recording, 786  
histories of 200 persons, 774  
initial cardiac forces in, 74-86  
in newborn, 699

**Bananas**, as low-sodium dietary staple, 297

**Barbiturates**, effects on coumarin, 783

**Behavior patterns**  
in coronary artery disease, and epinephrine excretion, 698  
in women, and cholesterol levels, 759

**Benzmalacene**, hypocholesterolemic effects of, 762, 1075-1078

**Bile Acids**  
fecal, heparin affecting, 976  
nicotinic acid affecting, 984  
sequestrants reducing plasma cholesterol, 969

**Biliary obstruction**, lipoprotein lipase and serum lipids in, 977

**Biopsies**, kidney, 147

**Blalock-Taussig operation**, 778

**Blood**, *see also* Plasma, Serum  
antidiuretic activity in, after neurohypophysis stimulation, 305  
arterial, effects of pH changes, 744  
gas tensions, arterial, exercise affecting, 472  
intracardiac, effects on electrocardiogram, 745  
lipid levels, *see* Lipids  
loss, *see* Hemorrhage  
secondary protease, 728  
sugar, *see* Glucose  
transfusions, rapid and post-hypothermic circulatory insufficiency, 672  
velocity, coronary insufficiency affecting, 666  
viscosity, intravenous heparin affecting, 1063-1065

## Blood flow

changes affecting renal vascular resistance, 305

coronary  
in atherosclerosis, 981  
catecholamines affecting, 623  
changes from epinephrine, pilocarpine affecting, 745  
drugs affecting, after occlusion, 304  
hypoxia affecting, 307  
khellin affecting, 959  
mecamylamine affecting, 307  
and myocardial radioactivity, 470

and endocarditis, 758  
in hand, nicotine affecting, 634  
hepatic, and oxygen consumption in cardiopulmonary bypass, 780

muscle, nicotine affecting, 760  
myocardial  
changes from lipemia, 723  
indicator-dilution studies, 736

nicotine affecting, 634, 760  
nitrous oxide method of measuring, 720

pulmonary  
arterial, velocity of, 304  
capillary, measurements of, 720

carotid sinus pressure changes affecting, 137  
chemical control of, 473  
collateral, 138  
effects on pulmonary vascular resistance, 760  
and vascular lumen, 974

vasodilatation test, new technique for, 715  
in vasodilated skin, 751

## Blood pressure

age factors in, 774

aortic, in dynamic states, 471  
arterial

effects on fluid release and trapping of red cells, 304  
new pressure pulse transducer, 460

systolic pressure in aortic stenosis, 1049-1052

in arteriovenous fistula, systemic, 1081

atrial, left, elevated, effects of, 243-250

carotid sinus nerve stimulation affecting, 306

catheterization recordings, *see* Catheterization, cardiac  
hypertension, 133, 462, 621  
in acromegaly, 956

adrenal-regeneration, and corticosterone sensitivity, 772

and adrenocortical hormones in urine, 700

and aldosterone secretion, 725  
and atherosclerosis, autopsy studies, 527-535

in Bantu, 621

cerebrovascular accidents with, 726

chlorothiazide in, 463, 680, 1028-1036, 1037-1042

prolonged effect of, 726

condiments in origin of, 673  
enzyme deficit theory of, 740  
essential

peripheral venous distensibility in, 787

serum sodium and potassium in, 784

familial patterns in, 25-29

furazolidone in, 957

hydrochlorothiazide in, 683  
intestinal wall arteries in, 464

kidney disease in, detection of, 687

kidney transplants, antihypertensive effects of, 715

malignant, cure by removal of Goldblatt kidney, 757

mio-pressin therapy, 956  
and nephrosclerosis

in absence of adrenal gland, 986

malignant, therapy affecting renal lesions in, 228

in paraplegics, 734

pentolinium and mecamylamine in, 463

pulmonary, 308

acetylcholine affecting, 381-394

alterations with, 691

and atrial septal defect, 667, 73, 383, 667, 744

in carcinoid cardiovascular syndrome, 208

in children with systemic-pulmonary communications, 744

with congenital heart disease, 301

hypoxie, 960

in mitral stenosis, 243-250

and vasoconstrictive factor, 147

venoarterial pumping affecting, 686

and pyelonephritis, 625

renal

liver damage affecting, 731  
from urine return to circulation, 706

in renal artery stenosis with arteritis of aorta, 856-862

- renal vein blood, pressor substance in, 717
- renoprival, DCA affecting, 621
- salt metabolism in, 464
- serum protein system in, 133
- sodium excretion in, 141, 498-508
- spironolactone in, 713
- SU-5864 in, 756
- surgery in, selection of patients for, 673
- sympathectomy for, 462
- TEAC diagnostic test in, 742
- treatment
  - in ambulatory patient, 462
  - in toxemia of pregnancy, 463
- vascular wall changes in, and peripheral resistance, 463
- ventricular, right, with pulmonary stenosis, open surgery in, 714
- weight reduction in, 693
- hypertonia, 526
- hypotension
  - acute, from fear or nausea, 147
  - catecholamines affecting, 741
  - hemorrhagic, and plasma epinephrine after phenoxymethylamine, 622
- hypotensive agent, new, 738
- paradoxical pressoreceptive responses, 681
- pulmonary
  - arterial
    - carotid sinus pressure changes affecting, 137
    - effects on pulmonary vascular resistance, 760
  - in left ventricular failure, nitroglycerin affecting, 952
  - in respiration, 781
  - roentgenologic quantitation of, 716
  - in sickle cell anemia of childhood, 770
  - venous, effects on pulmonary vascular resistance, 760
- recording, new method of, 661
- renal vein, effects of changes in, 311
- smoking affecting, 226
- ventricular
  - in cardiac tamponade, 695
  - diastolic left, 686
  - left, and systolic pressure in aortic stenosis, 1049-1052
- work affecting, 542
- Blood vessels, 144, 313, 633, see also Arteries, Capillaries, Veins**
- adrenalin, lesions from, 972
- coagulant properties of, 775
- emotions affecting, 353-358
- engorgement, pulmonary effects of, 472
- histamine causing lesions, 766
- lumen, and blood flow, 974
- peripheral, *see* Peripheral vascular conditions
- prostheses, 631
- pulmonary, *see* Pulmonary conditions
- reconstructive surgery, 633
- renal, *see* Kidneys
- resistance
  - forearm, in hypoxia, 138
  - pulmonary
    - acetylcholine affecting, 381-394
    - after atrial septal defect closure with pulmonary hypertension, 667
    - bronchoconstrictor drugs affecting, 719
    - in heart disease, 850-854
    - lung volume affecting, 771
    - in mitral stenosis, 243-250
    - after mitral valvotomy, 741
    - oxygen affecting, 66-73
    - pneumothorax affecting, 719
    - pulmonary changes affecting, 760
    - in sickle cell anemia of childhood, 770
  - renal
    - blood flow changes affecting, 305
    - renal vein pressures affecting, 311
- revascularization, *see* Revascularization
- salt depletion affecting, 707
- serotonin causing lesions, 766, 972
- small vessels of dermis and subcutis, 633
- tone, and responses to serotonin, 467
- transposition of great vessels, 740, 746
- vasoconstrictive factor in pulmonary hypertension, 147
- vasodilatation
  - blood flow and oxygen tension in, 751
  - test, new technique for, 715
- vasopressors
  - effects on murmurs, 690
  - effects in shock, 717
- vasovagal reactions, dynamics of, 705
- wall changes in hypertension, and peripheral resistance, 463
- Blood volume**
  - aortic, in dynamic states, 741
  - central
    - measurement of, 689
    - and stroke volume, 305
  - exchange, shock from, 686
  - hypervolemia
    - ganglionic blockade in, 698
    - and polycythemia vera, 679
  - left ventricular-arterial, in valvular heart disease, 788
  - left ventricular diastolic, 686
  - oligemic anemia, 695
  - pulmonary
    - capillary, and membrane diffusing capacity, 138
    - and pulmonary hemodynamics, 771
    - radioisotope estimation of, 731
- Bowel function, peripheral vascular dynamics of, 635**
- Brachial aortic cinefluorography, 704**
- Breathing, *see* Respiration**
- Bright's disease, 16**
- Bromsulphalein, effect on hepatic hemodynamics, 743**
- Bronchoconstrictor drugs, pulmonary vascular effects of, 719**
- Bronchogenic carcinoma, cardiac involvement, 758**
- Buerger's disease, 784**
- Relaxin therapy, 979**

## C

- Calcification, mural, of left atrium, 144**
- Calcium, effects on hypothermic ventricular fibrillation, 472**
- Calcium-binding effect on glutamyl peptide polymer, 299**
- Capillaries**
  - cardiac circulation, 35-41
  - pulmonary
    - blood flow measurements of, 720
    - blood volume and membrane diffusing capacity, 138
    - proliferation from oxygen inhalation, 308
- Carbohydrates**
  - effects on cholesterol levels, 964, 986
  - effects on fat absorption, 964
  - metabolism changes in stress, 674
- Carbomycin, effects on serum cholesterol, 979**

- Carbon dioxide**  
arterial tension in exercise, 472  
buffers (THAM)  
and arterial blood pH levels, 744  
in respiratory failure, 735  
elimination, and carbonic anhydrase inhibition, 960  
exposure in pregnancy, and cardiac anomalies, 710  
tensions in extracorporeal circulation, 749
- Carbon monoxide diffusing capacity**, and pulmonary hemodynamics, 751
- Carbonic anhydrase inhibition**, and carbon dioxide elimination, 960
- Carcinoid cardiovascular syndrome**, 208-213
- Carcinoma**, bronchogenic, cardiac involvement, 758
- Cardiac conditions**, *see* Heart
- Cardiopulmonary bypass**, *see* Extracorporeal circulation
- Cardiorespiratory conditions**, *see* Respiration
- Carotid arteries**  
arteriography, 173  
auscultation, for intracardiac thrombus, 303  
catheterization through, 460  
murmurs, 145  
occlusive disease of, 4-13  
surgery in, 168-180  
pulses in left bundle-branch block, 462  
thrombosis of, 635
- Carotid sinus**  
effects on kidney function, 281  
nerve stimulation, effects of, 306  
pressure changes affecting pulmonary blood flow, 137  
reflex, effects of, 595-601
- Catecholamines**  
of adrenal medulla, 306  
and blood supply and energetics of heart, 623  
excretion changes in stress, 674  
hemodynamic effects of, 741  
in myocardial necroses from stress, 754  
plasma levels, arterial blood pH changes affecting, 744
- Catheterization**, cardiac  
in aortic stenosis, 144  
atrial pressure recordings in myxoma, 413-418  
in dextrocardia, 664  
intracavitary electrocardiograph with, 928-932  
left heart  
in mitral disorders, 690  
pretracheal, 696  
retrograde arterial, 724  
retrograde, in congenital heart disease, 704  
oximeter amplifier unit, 782  
pressure recordings during, 141  
in pulmonary venous drainage anomalies, 667  
retrograde transpulmonary propagation of AC wave, 718  
through common carotid artery, 460  
through femoral artery, 460
- Catron therapy in angina pectoris**, 617
- Celiac artery atherosclerosis**, autopsy studies, 518, 525
- Cells**, red, *see* Erythrocytes
- Cerebrovascular conditions**, 147  
accidents, in hypertensive disease, 726  
angiography  
complications of, 312  
intravenous, 774  
angiospasm, 681  
anticoagulants in, 56-65, 215-223  
atherosclerosis  
autopsy studies, 518, 525  
surgery in, 168-180  
embolism, in rheumatic heart disease, 147  
histochemical studies of arteries, 971  
infarction, anticoagulants in, 56-65  
saccular aneurysm of arteries, and arteriovenous angioma, 635
- Chest pain**, interpretations of, 300
- Chlorazasil**, action of, 466
- Chlormerodrin**, diuretic activity in heart failure, 766
- Chloroform treatment of serum**, and second blood protease, 728
- Chloroquine**, action of, 469
- Chlorothiazide**  
action of, 467  
disposition in dog, 958  
diuretic effect of, 140, 303, 699  
in heart failure, 766  
effects on kidney, 624  
and fluid volume depletion, 1028-1036  
in heart block, 779  
in hypertension, 463, 680, 1037-1042  
pharmacology of, 958  
prolonged therapy with, effects of, 726  
stop-flow analysis of action, 469  
in shock, 717
- Cholelithiasis**, and mitral stenosis, 143
- Cholesterol**  
in atherosclerotic plaques, lability of, 967  
binding capacity of atherosclerotic intimas, 1144  
biosynthesis  
in animal blood, 298  
inhibition of, 681  
benzmalecene affecting, 762, 1075-1078  
MER-29 affecting, 713, 730, 965  
dietary  
responses to, 970  
and serum lipid levels, 615  
esters  
from intima, fatty acids in, 972  
radioactive carbon incorporated into, 988  
hypercholesterolemia  
breed susceptibility to, 973  
cortisone affecting aortic intimal repair in, 616  
estrogens and, 234-241  
familial, and xanthomatosis in coronary heart disease, 954  
liver function studies in, 983  
myocardial infarction in, 975, 1010-1025  
nicotinic acid in, 671, 747  
sulfated alginic acid in, 680  
metabolism  
in methyl-testosterone-treated dogs, 970  
and thyroid hormones, 981  
unsaturated fatty acids affecting, 298  
plasma  
MER-29 affecting, 965  
reduction with bile acid sequestrants, 969  
sources of, 966  
serum levels  
in atherosclerosis with anticoagulant therapy, 1145  
and behavior patterns in women, 759  
body miscible pool of, 678  
in Chicago utility company employees, 973  
and coronary heart disease, 109-125  
dietary factors in, 29, 757, 985  
carbohydrates and protein, 964, 986  
fat and ethanol, 985  
fruits, vegetables and legumes, 980  
linoleic, linolenic acids and cod liver oil, 298



- drugs affecting, 979  
 genetic and environmental factors in, 765  
 heparin affecting, 973  
 measuring, 965  
 neomyein reducing, 774  
 nicotinic acid affecting, 671, 747  
 phosphatidyl ethanolamine and serine affecting, 970  
 porphyrin compounds affecting, 663  
 in postmortem blood, 989  
 predicting myocardial infarction, 975, 1010-1025  
 and protein biosynthesis in liver, 968  
 radioactive, disappearance of, 966  
 resin ingestion affecting, 981  
 thyroid hormones affecting, 979, 988  
 variations in, 1143  
 hourly, 752  
 tissue, MER-29 affecting, 965
- Cholinergic influences on heart,** 135
- Chromatography,** gas, in detection of left-to-right shunts, 754
- Cineangiography,** in pulmonary venous drainage anomalies, 667
- Cinecoronary arteriography,** 773
- Cinefluorography,** brachial aortic, 704
- Cirrhosis,** Laennec's, hydrochlorothiazide in, 683
- Claudication,** intermittent vitamin E therapy in, 145
- Climate,** affecting cardiac output, 472
- Coagulation,** 616, 952, 1145  
 anticoagulant activity of arterial mucopolysaccharides, 975  
 anticoagulant therapy, 616  
 in atherosclerosis, and serum cholesterol levels, 1145  
 in carotid occlusion, 11  
 and cerebral infarction, 56-65  
 in cerebrovascular disease, 215-223  
 choice of, 748  
 clotting time control of, 738  
 in coronary occlusion, 737  
 long-term, 675  
 in coronary disease, 1150  
 heparin in, 617  
 in myocardial infarction prevention, 746  
 risk of interrupting, 771  
 in myocardial infarction, 953, 1149
- nicoumalone, 1147  
 in thrombophlebitis in pregnancy, 1146  
 antiprothrombinopenic effect of vitamin K, 622  
 in atherosclerosis, 775, 991  
 behavior pattern in women, and clotting times, 759  
 and blood lipids in alimentary lipemia, 987  
 clotting mechanism in normal young males, 788  
 coumarin therapy  
 first stage factors and, 728  
 tests in Dicumarol therapy, 743  
 thromboelastograms and, 405-411  
 disseminated intravascular, 952  
 effects of soaps from hydrogenated food fats, 982  
 fibrinolysin infusions, effects of, 42-54  
 glutamyl peptide polymer affecting, 299  
 hyperlipemia and intravascular clotting, 734
- Coarctation of aorta,** *see* Aorta
- Coccarboxylase,** in arrhythmia in myocardial infarction, 1150
- Commissurotomy**  
 aortic, direct vision, 143  
 mitral, 87  
 arrhythmia after, 291  
 effects on tricuspid insufficiency, 360-366  
 in insufficiency, 683  
 operability of patients, 442-449  
 in patients past fifty, 144  
 in pregnancy, 143  
 pulmonary biopsies during, 309  
 pulmonary resistance after, 741  
 traumatic mitral regurgitation after, 779
- Compound 45-50,** effects on renal vessels, 135
- Condiments in origin of hypertension,** 673
- Conduction**  
 atrioventricular, and myocardial anoxia, 679  
 cardiac, congenital malformation of, 301  
 concealed, 713  
 pathology in right bundle-branch block, 727  
 right ventricular, incision of, electrocardiogram after, 779
- Congenital anomalies,** 299, 617, 1147
- angiocardiology in, 473  
 aortic rupture in Marfan's syndrome, 300  
 aortic stenosis, supra-valvular, 617  
 aortic valve disease, 669  
 of cardiac conduction system, 301  
 coronary arteriovenous fistula, 700  
 with large patent ductus, 254-260  
 coronary artery aneurysm, 1147  
 diagnosis of, 602-605  
 Ebstein syndrome, 300  
 electrocardiogram and hemodynamics in, 669  
 faults in diagnosis and management of cardiac pain, 300  
 genetic factors, 301  
 of great systemic and pulmonary veins, 299  
 isotope dilution studies in, 663  
 mitral insufficiency, 777  
 pulmonary changes with, 301, 381-389  
 pulmonary insufficiency, 554-560  
 retrograde left ventricular catheterization in, 704  
 syndrome of, 396-404  
 in twins, 327-342  
 ventricular septal defect, electrocardiography in, 300
- Congestion,** circulatory, and heart failure, 658-659
- Connective tissues,** serotonin and histamine causing lesions of, 766
- Contractility**  
 cardiac, anoxia affecting, 470  
 myocardial, studies of, 673  
 ventricular, in heart block, radio control of, 139
- Cor pulmonale**  
 arrhythmias in, 748  
 in Delhi, 343-351  
 electrocardiogram in, 459, 750  
 renal hemodynamics in, 763
- Coronary arteries,** 302, 617, 953, 1140  
 aberrant left artery, 918-925  
 anastomoses, 812-814, 816-821, 1149  
 after coronary occlusion, 786  
 mammary coronary artery, 702  
 aneurysm, congenital, 1147  
 angiography, 312  
 demonstrating anastomoses, 674  
 anticoagulant therapy, long-term, 1150  
 arteriography

**Coronary arteries (Cont'd)**

artificial pacemaker in, 726  
 cine-coronary, 773  
 dye injection control in, 313  
 in ischemic heart disease, 960  
 arteriovenous fistula, 254-260,  
 700

atheromatous plaques, 985

atherosclerosis

and aortic stenosis, 636

autopsy studies, 516, 523

blood flow in, 981

neomycin reducing serum  
 cholesterol levels in, 774

obliterating, with angina pec-

toris, surgery in, 683

pitressin in, myocardial ne-

crosis after, 991

premenopausal, 234-241

and atrioventricular block, re-

versible, 262-266

and behavior patterns

and epinephrine excretion,

698

in women, 759

blood flow, *see* Blood flow

cholesterol variations in serum,

1143

biosynthesis inhibition, 713

familial hypercholesterolemia

and xanthomatosis, 954

clinopathologic correlations in

disease, 712

condiments affecting, 673

curettage, coronary, 954

embolism, 303

endarterectomy, 665

estradiol effects in males, 990

familial patterns in diseases,

25-29

fats, cholesterol and diseases,

109-125

hemorrhage, dissecting, in me-

dia, 618

insufficiency, and left ventricu-

lar ejection velocity, 666

ischemia after gastrectomy, 302

ligation after radiation of ca-

nine heart, 302

lipemia affecting circulation,

298

myocardial infarction, *see* In-

farction, myocardial

occlusion

in ancient Egypt, 438-441

coronary anastomosis after,

786

drugs affecting flow after,

304

premonitory phase of, 737

ventricular fibrillation after,

A-V node anesthetization

affecting, 308

pericarditis, 687

and physical activity of work,

955

plasma flow, and myocardial

radioactivity, 470

postpartum disease, fatal, 618

and pregnancy, 786

septal artery anatomy, 1150

surgery, 682, 739, 954

surgical anatomy of right coro-

nary artery, 1149

thrombosis

psychology of delayed re-

covery, 783

segmental, and myocardial

infarction, 672

topography, 628

**Corticosterone**, sensitivity to, and

adrenal-regeneration hy-

pertension, 772

**Cortisone**

arrhythmia from, 291

effects on aortic intimal repair

in hypercholesteremia,

616

in rheumatic fever, effects on

visceral lesions, 141

**Coumarin derivatives**

anticoagulant action of, 616

barbiturates affecting, 783

dicumarol and platelet clump-

ing and clotting tests,

743

effects on thromboelastograms,

405-411

and first stage coagulation fac-

tors, 728

**Cranial injury**, circulation in, 749

**Curettage**, coronary, 954

**Cyanosis of cardiopulmonary ori-**

**gin**, 309

**Cyclopentamine**, effects on renal

vessels, 135

**Cystic fibrosis of pancreas**, in

children, diurnal serum

lipid levels in, 986

**Cytidine**, effects on frog ventri-

cle, 133

**D**

**Dehydrogenase**, lactic, after myo-

cardial infarction, 302

**Desoxycorticosterone**

effects on renal response to

acetazolamide, 140

effects on renoprival hyperten-

sion, 621

**Detergents**

affecting serum lipoproteins, 980

reducing fat emboli, 747

**Dextrocardia**, congenital, 664

**Diabetes**

arterial pulse wave abnormali-

ties in, 1106-1110

intramural vascular lesions of

heart in, 661

radioactive iodine-triolein toler-

ance curve in, 764

**Diaphragm defects in congenital**

**syndrome**, 396-404

**Diamox**, *see* Acetazolamide

**Dibenzylamine**, effects on epineph-

rine levels, 622

**Dicrotism**, nature of, 137

**Dicumarol**, *see* Coumarin

**Diet**

anorexigenic agent in hyper-

tension, 693

and atherosclerosis, 29, 161-167,

982

butter and egg yolk, 970

fats, 109-125

ingestion, rate, 969

bananas as low-sodium staple,

297

and blood lipid levels, 29, 615

1144

cholesterol

responses to, 970

and serum lipid levels, 615

condiments in origin of hyper-

tension, 673

and coronary heart disease, 109-

125

fat

absorption, carbohydrates af-

fecting, 964

and coronary heart disease,

109-125

effects on serum cholesterol,

985

hydrogenated, effects on co-

agulation, 982

and serum lipid levels, 615,

1144

and fatty acids of plasma

lipids, 720

food pattern changes and blood

lipid levels, 677

high milk diets for ulcer pa-

tients, and myocardial

infarction, 992

inhibitory action of dietary

factors, 982

and serum cholesterol levels,

29, 757, 985, *see also*

Cholesterol

thrombogenic diet affecting

fibrinolysis, 989

**Diffusing capacity of lungs**, and

pulmonary capillary blood

volume, 138

**Diffusion**, peripheral, and circu-

latory efficiency, 661

**Digitalis**

antagonism in thyrocardiac pa-

tient, 698

and atrial tachycardia with

block, 468

- in cardiomegaly without heart failure, 788  
 childhood dosages, 665  
 delirium with, 549-553  
 in dyspnea, exertional, 301  
 effect on T wave in electrocardiogram, 728  
 in heart failure, 1148  
 isometric contraction phase after, 763  
 and potassium toxicity, 623
- Dihydro-ouabain**, and ventricular potassium balance, 466
- Dilution curves**  
 calibration of, 727  
 in cardiac output estimation, photoelectric recording of, 1111-1117  
 in cardiac shunt detection, 875-879  
 in congenital heart disease, 663  
 continuously accelerating decay of, 678  
 diagnostic applications of, 147  
 double-catheter technique, 684  
 double curves in valvular regurgitation, 785  
 injections in pulmonary wedge position, 760  
 in mitral valve disease, 670  
 multiple, in valvular regurgitation, 724  
 of myocardial blood flow, 736  
 oximeter amplifier unit, 782  
 precordial counting with, 753  
   compared with Fick method, 769  
 in valvular regurgitation, 561-567, 752
- Dinitrophenol**, effects on electrical activity of heart, 623
- Distensibility**, peripheral venous, in hypertension, 787
- Diuresis**  
 antidiuretic activity in blood after neurohypophysis stimulation, 305  
 antidiuretic hormone action, 147  
 chlorazanol, 466  
 chlorothiazide, 140, *see also* Chlorothiazide  
 in dyspnea, exertional, 301  
 effects on kidney, 624  
 in heart failure, 766, 1148  
 mechanisms of, 147, 467  
 mercurial, 310  
   acid-base balance affecting, 311  
   in acidosis and alkalosis, effects of, 958  
 nonmercurial organic, 303  
 response to intravenous isotonic saline, 140
- thiazid derivatives, 699
- Diuril**, *see* Chlorothiazide
- Ductus arteriosus**  
 patent  
   and aortic coarctation, in infants, 668  
   brachial aortic cinefluorography in, 704  
   with coronary arteriovenous fistula, 254-260  
   ligation of, cardiovascular changes after, 627  
   murmur with, intermittent disappearance of, 768  
   phonocardiography in, 759  
   pulmonary hypertension with, in children, 744  
 persistent  
   angiocardiography of, 626  
   roentgen diagnosis of, 473
- Dye-dilution curves**, *see* Dilution curves
- Dyspnea**  
 exertional, digitalis and diuretics in, 301  
 in heart failure, cause of, 731
- Dystrophic atrial muscle**, acetylcholine affecting, 721

## E

- Ebstein's syndrome**, 300
- Edema**  
 cardiac, prednisone in, 465  
 pulmonary, treatment of, 1148  
 lung mechanics in, 769
- Effort tolerance**, *see* Work
- Eisenmenger complex**, pulmonary vascular changes in, 466
- Electrical activity**  
 of atrioventricular node fibers, 471  
 cardiac intracellular, ischemia affecting, 304  
 cardiac potential, potassium affecting, 711  
 of heart, dinitrophenol and ATP affecting, 623  
 ventricular, *see* Ventricles, activation
- Electrocardiogram**  
 in atrial infarction, 730  
 atrial overloadings, 619  
 in bundle-branch block, right, 201-206, 460, 727  
 in congenital heart disease, 669  
 in cor pulmonale, 459, 750  
 derivative tracings, 664  
 in dextrocardiography, 664  
 digital computer with, 752  
 digitalis effect, and T wave change, 728  
 dipole hypothesis, 676
- in exercise, 461, 737, 738  
 interpretations of, 767  
 intracardiac blood affecting, 745  
 intracavitary, in cardiac catheterization, 928-932  
 in lung disease, diffuse, 1067-1074  
 magnesium affecting, 776  
 multiple precordial leads, 672  
 in myocardial injury with ventricular septal defect repair, 695  
 in myocardial ischemia, distinctive pattern in, 725  
 myocardial oxygen gradient and S-T segment elevation, 459  
 in Negro, 906-909  
 postoperative modifications, 461  
 and potassium content of red cells, 717  
 potassium ingestion, T waves after, 955  
 potassium injections affecting, 773  
 PR segment formation, 229-233  
 in pulmonary emphysema, 831-840  
 QRS complex changes with tachycardias in bundle-branch block patterns, 743  
 refractory period and origin of T waves, 756  
 retrograde transpulmonary propagation of AC wave in mitral stenosis, 718  
 rSr' in V<sub>1</sub>, 767  
 S-T deviations in angina pectoris, 619  
 in tachycardia, paroxysmal ventricular, 460  
 U wave modification, 955  
 upright T waves in right precordial leads in children, 753  
 after ventricular conduction system incision, 779  
 ventricular ectopic beats with coupling, 459  
 in ventricular hypertrophy, 30-34, 662, 687  
   and bundle-branch block, 766  
 ventricular potentials, boundary conditions affecting, 680  
 in ventricular septal defect, 300  
 Wolff-Parkinson-White syndrome, 620, 696  
 work affecting, 543, 619
- Electrolytes**, 140, 310, 624  
 effects on musculature, 624  
 red cell, in heart failure, 1147  
 renin affecting, 725

**Electrolytes (Cont'd)**

serum electrolyte changes after extracorporeal circulation, 310

**Electrophoresis**, paper, and lipoproteins in atherosclerosis, 722

**Electropolarographic evaluation of cardiac revascularization**, 758

**Embolism**, *see also* Thromboembolic disease

cerebral

anticoagulants in, 215-223  
in rheumatic heart disease, 147

coronary, 303

fat, from cardiopulmonary bypass, detergent reducing, 747

microemboli in endocarditis production, 956

pulmonary  
diagnosis of, 960  
fatal, 1145

**Emotions**, *see also* Behavior patterns and Stress  
cardiovascular response to, 353-358

and delayed recovery in coronary thrombosis, 783  
and hypotension, acute, 147

**Emphysema**, pulmonary  
electrocardiogram in, 831-840  
roentgenology in, 960

**Endarterectomy**, in coronary artery disease, 665

**Endocarditis**

abscess of heart with, 590-594  
difficult cases, 430-437  
hospital acquired, 750  
and hydrodynamics, 758  
postoperative, 712, 955

**Enzymes**

deficit theory of hypertension, 740

serum, and myocardial infarction, 302, 465

**Epinephrine and norepinephrine**  
arrhythmia from, and potassium levels, 959

coronary flow changes from, pilocarpine affecting, 745  
depletion of, cardiac, reserpine affecting, 467

effects on blood pressure, 741  
effects on heart rate, 569-573  
effects on renal vessels, 135

excretion, and behavior patterns with coronary artery disease, 698

extravasation of, 136

magnesium affecting responses to, 135

metabolism in pheochromocytoma, 957

plasma levels  
in insulin hypoglycemia, 781  
phenoxybenzamine affecting, 622

after tilting, in hypertension, 422-426

and plasma role in fat transport, 615

and posthypothermic circulatory insufficiency, 672

preventing ischemic necrosis, 789

role in circulation, 147

and transaminase and alkaline phosphatase levels, 621

urinary, phenoxybenzamine affecting, 622

vascular lesions from, 972

**Epinephrine-like substances**,  
smoking affecting, 225

**Erythrocytes**

electrolytes in heart failure, 1147

nucleated red cells in congestive heart failure, 367-370

potassium content, and electrocardiography, 717

rotating tourniquets affecting mass, 763

trapping of, arterial blood pressure affecting, 304

**Erythromycin**, in rheumatic fever prophylaxis, 715

**Estrogens**

effects on aortic atherosclerosis, 993

effects on lipids, 234-241

in males with coronary heart disease, 990

in postmyocardial infarction, 736

**Ethanol**, and fat diet, effects on serum cholesterol, 985

**Excitability of heart**, 306

**Exercise**, *see* Work and exercise

**Extracorporeal circulation**

acid-base abnormalities with pump oxygenator, 711

activation of interventricular septal surfaces in, 663

in aortic valvular fenestration, 587-589

blood changes during, 629

blood gas tensions in, 749

closed chest, hemodynamic effects of, 722

detergents

affecting serum lipoproteins, 350

reducing fat emboli, 747

heart-lung machine with arti-

ficial pulmonary membrane, 313

heparin and platelet count in, 313

hepatic blood flow and oxygen consumption in, 780

hypoglycemia in, 961

hypothermia with, profound, 767, *see also* Hypothermia

in pulmonary stenosis with right ventricular hypertension, 714

pump-oxygenator without donor blood, 745

in rupture of aneurysm of sinus of Valsalva, 633

serum electrolyte changes after, 310

stationary screen oxygenators, gas exchange in, 708

**F****Falot's tetralogy**

aortic-pulmonary anastomosis in, effects of, 749

outflow tract patch in, 775

paradoxical results of surgery, 823-829

postoperative lung changes in, 693

results of operations for, 627

**Familial**

glomerulonephritis from streptococcus, 310

heart disease, 25-29

congenital, 301

hypercholesterolemia, and xanthomatosis in coronary heart disease, 954

interatrial septal defects, 782

lipid levels, factors in, 765

muscular subaortic stenosis, 676

**Fat**

dietary, *see* Diet

emboli, from cardiopulmonary bypass, detergent reducing, 747

**Fatigue**, effects of, 545

**Fatty acids**

in cholesterol esters of intima, 972

plasma

diet affecting, 720

epinephrine affecting, 615

exercise affecting, 697

serum, in insulin hypoglycemia, 781

tissue, steam-volatile, 984

unsaturated, effects on cholesterol metabolism, 298

**Fatty streaks in aorta**, grading of, 983

**Fear**, acute hypotension from 147

**Fecal**

- bile acids, heparin affecting, 976
- steroids, analysis of, 968

**Femoral arteries**

- arteriovenous fistula, effects of, 634
- catheterization through, 460
- iliofemoropopliteal arterial reconstruction in arteriosclerosis obliterans, 635
- occlusive disease, surgical considerations in, 144

**Fever**

- circulatory changes in, 1137-1140
- pathogenesis of, 1133-1137

**Fibrillation**

- antifibrillatory action of chloroquine, 469
- atrial, 288-290, 451-458
  - partial, 620
  - systole duration in, 706
- ventricular
  - after coronary arterial occlusion, A-V node anesthesia affecting, 308
  - electrical activity after, 471
  - hypothermic, potassium and calcium affecting, 472
  - myocardial ischemia and revascularization affecting, 733
  - pacemaker and defibrillator in, 294-296

**Fibrinolysin (plasmin)**, 42-54

- in myocardial infarction, 684, 746, 766
- in thromboembolic disease, 1146
- in thrombophlebitis, 742

**Fibrinolysis**

- nicotinic acid affecting, 989
- thrombogenic diet affecting, 989

**Fibrosis**

- cystic, of pancreas, in children, diurnal serum lipid levels, in, 986
- diffuse myocardial, diagnosis of, 606-613
- subendocardial, production of, 741

**Fick method of cardiac output measurement**, compared with dye curves, 1111-1117

**Fistula**

- aortic-right ventricular, 1128-1131
- arteriovenous, *see* Arteriovenous fistula

**Fluid volume depletion**, and chlorothiazide action, 1028-1036

**Flumethiazide**, diuretic activity, 699

**Flutter**, atrial, 451-458

**Folic acid metabolism**, and atherosclerosis, 988

**Foods**, *see* Diet

**Funnel chest**, effects of, 1151

**Furazolidone**, antihypertensive effects of, 957

**G**

**Gallop rhythm**, 147, 469, 703, 1053-1061

**Gallstones**, and mitral stenosis, 143

**Ganglionic blockade in hypervolemia**, 698

**Gas**

- chromatography, in detection of left-to-right shunts, 754
- exchange, *see also* Carbon dioxide, Oxygen
  - pulmonary, lipemia affecting, 723
  - in stationary screen oxygenators, 708
- tensions, arterial, exercise affecting, 472

**Gastrectomy**

- coronary ischemia after, 302
- postoperative cardiovascular changes, 637

**Genetics**, *see* Familial conditions

**Ginger**, mustard and pepper in hypertension, 673

**Glomerulonephritis**, acute

- circulatory changes in, 190-199
- familial, after streptococcus, 310

**Glucose**

- cardiac effects of infusions, 307
- hyperglycemia after smoking, 224-227
- hypoglycemia
  - in cardiopulmonary bypass, 961
  - insulin, effects of, 307, 781
  - and plasma epinephrine levels, 781

**Glutamyl peptide polymer affecting coagulation**, 299

**Glycosides**, cardiac

- and heart sounds in mitral stenosis, 467
- and ventricular potassium balance, 466

**Glycocyanine**, in atherosclerosis, 987

**Glycogen**, myocardial, during cardiac arrest, 708

**Grafts**, *see also* Prosthetics

- arterial, 630
- in bacterial infection, 632

heterografts, 630

kidney transplants, 715

peripheral vascular, 630

venous, 630

**Gravity**, zero, cardiovascular effects of, 776

**Guanosine**, effects on frog ventricle, 133

**H**

**Head injury**, circulation in, 749

**Heart**

- abdominal venous thrombosis in cardiac patients, 145
- abscess, 590-594
- adrenergic and cholinergic influences, 135
- angiocardiology, *see* Angiocardiography
- arachnoidally affecting, 88-95
- arrest
  - acetylcholine, artificial pacemaker controlling, 726
  - and hypervagism, 620
  - hypothermic, effects of, 703, 755, 770, *see also* Hypothermia
  - internal cardiac pacemaker in, 668
  - left ventricular function after, 676
  - myocardial metabolism in, 708
  - potassium, myocardial disorders after, 629, 739, 785
  - resuscitation during, 705, 946-951
- artificial, in chest, 722
- breath-holding time in disease, 721
- capillary circulation in, 35-41
- carbon dioxide exposure in pregnancy, effects of, 710
- and carcinoma, bronchogenic, 758
- cardiogenic shock, 707
- cardiomegaly, digitalis in, 788
- cardiospectrographic analysis, 736
- cardiomyic shadows, enlarged, prednisone in evaluation of, 674
- carditis
  - microemboli in production of, 956
  - rheumatic, and atherosclerosis, autopsy studies, 527-535
- catheterization, *see* Catheterization, cardiac
- congenital disease, *see* Congenital anomalies
- contractility in anoxia, 470



**Heart** (*Cont'd*)

- dextrocardia, 664
- edema, prednisone reversing, 465
- efficiency studies, 473
- emotions affecting, 353-358
- endocarditis, *see* Endocarditis
- excitability of, 306
- familial patterns in disease, 25-29
- forces, studies of, 74-86
- hypertrophy, after T-3 administration, 133
- India, disease in, 325-326, 343
- intramural vascular lesions in diabetes, 661
- kymography of normal eye, 143
- metabolic disorders affecting, 670
- myxoma, 631, 1151
- norepinephrine depletion, reserpine affecting, 467
- output
  - in arteriovenous fistula, systemic, 1081
  - dye dilution curves estimating, *see* Dilution curves
  - estimation of, 139
  - heart rate and stroke volume affecting, 781
  - in hypothermia, 634
  - radioactive iodinated serum albumin determinations of, 734
  - tropical weather affecting, 472
  - variability of, 470
- oxygen consumption, *see* Oxygen consumption
- performance, 658
- pericarditis, *see* Pericarditis
- radiation of canine heart, coronary artery ligation after, 302
- rhabdomyoma of, surgery in, 704
- rheumatic disease, *see* Rheumatic heart disease
- rupture, in myocardial infarction, anticoagulants affecting, 953
- shunts, detection of, 730, *see also* Shunts, cardiac
- size in children, after rheumatic fever, 697
- spirometry in disease, 309
- staphylococcal infections, 96-107
- strength of, 807-811
- tamponade, ventricular pressures in, 695
- thrombus, roentgenology in, 626
- thyroid affecting, 134, 464
- triatrial, 723

- ultrasonic echo technic in diagnosis of disease, 462, 955
- work and heart disease, 537-548, *see also* Work
- wounds, penetrating, 631

**Heart beat**

- ectopic, left ventricular dynamics in, 778
- premature, ventricular activation for, 709

**Heart block**

- atrioventricular
  - atrial tachycardia with, and digitalis, 468
  - in high rate and Wenckebach periodicity, 682
  - reversible, with coronary artery disease, 262-266
  - ventricular pacemaker in, 668
- bundle branch, tachycardias with, QRS complex changes in, 743
- chlorothiazide therapy, 779
- isoproterenol in Stokes-Adams attacks with, 757
- left bundle branch
  - arterial ejection in, 462
  - and left ventricular hypertrophy, diagnosis of, 766
- P wave extracardiac pacemaker, 775
- right bundle branch
  - conduction pathology in, 727
  - differential diagnosis of, 201-206
  - electrocardiogram in, 460
  - ventricular contraction in, radio control of, 139
- in ventricular septal defect repair in childhood, 725

**Heart failure**, 301, 617, 952, 1147

- adrenocortical steroids in, 705
- antibiotic prophylaxis in, 953
- cardiotonics in, 1148
- cell metabolism in, 464
- digitalis in, 301, 788
- diuretics in, 301, 766, 1148
- dyspnea in, 301, 731
- hydrochlorothiazide in, 302, 683
- isoproterenol affecting renal function in, 764
- kidney role in, 273-283
- left ventricular, hemodynamics of, 243-250
- myocardial metabolism in, 1148
- nucleated red cells in, 367-370
- pericardial effusion in, 787
- prednisone reversing edema in, 465
- red cell electrolytes in, 1147
- serum alphaketo-glutaric acid in, 617
- venoarterial pumping in, 1148

**Heart-lung machine**, *see* Extracorporeal circulation**Heart rate**

- in arteriovenous fistula, systemic, 1081
- and cardiac output, 781
- and pulse pressure, 569-573
- rauwolfia alkaloids affecting, 468
- respiration affecting, 471, 679
- slow, internal cardiac pacemaker in, 668

**Heart sounds**, *see also* Murmurs, Rhythm

- auscultation
  - carotid, for intracardiac thrombus, 303
  - in pulmonic stenosis, 666
- fourth sound, 742
- in mitral stenosis, glycosides affecting, 467
- phonocardiography, *see* Phonocardiography
- tape-recorded, in screening for childhood heart disease, 887-895

**Heat stress**, effects of, 544**Hemorrhage**

- in anticoagulant therapy, 675
- arterial blood pressure during, 304
- dissecting, in media of coronary artery, 618
- hypotension with, and plasma epinephrine after phenoxylbenzamine, 622
- in myocardial infarction, anticoagulants affecting, 953
- nervous humoral responses to, 137

**Heparin**

- clearing factor
  - inhibition of, 1145
  - in ischemic heart disease, 677, 1144
- effects on blood lipoproteins, 977
- effects on cholesterol excretion, 976
- effects on platelet count, and extracorporeal circulation, 313
- intravenous, and blood viscosity, 1063-1065
- long-term therapy with, 617
- plasma levels, epinephrine affecting, 615
- radioactive, metabolic studies with, 689
- sublingual, in post-coronary patient, 699

**Heredity**, *see* Familial conditions**Histamine**

- pulmonary vascular effects of, 719
- vascular and connective tissue lesions from, 766

- Hydralazine**, arrhythmia from, 291
- Hydrochlorothiazide**  
diuretic activity, 699, 766  
evaluation of, 683  
in heart failure, 302, 766  
saluretic activity, 623
- Hydrocortisone hemisuccinate**, effects on renal response to acetazolamide, 140
- Hydroflumethiazide**, diuretic activity, 699
- Hydrostatic pressure stocking in venous insufficiency**, 1043-1048
- Hydroxyamphetamine**, effects on renal vessels, 135
- Hypaque**, in aortography, suitability of, 468
- Hyperemia**, reactive, after arterial occlusion, changes during, 304
- Hyperglycemia**, hypoglycemia, *see* Glucose
- Hypertension**, hypotension, *see* Blood pressure
- Hypothermia**  
after total circulatory occlusion, acidosis in, 685  
arrhythmia from, 291  
cardiac arrest from, 703, 770  
prolonged, effects of, 755  
cardiac output in, 624  
downward temperature drift in, 708  
effects on tubular transport mechanisms, 311  
in open heart surgery, 701, 767  
posthypothermic circulatory insufficiency, transfusion and noradrenalin affecting, 672  
ventricular fibrillation in, potassium and calcium affecting, 472
- Hypoxia**, *see* Oxygen

## I

- Iliac arteries**  
atherosclerosis of, autopsy studies, 516, 524  
occlusive disease, surgical considerations in, 144
- Iliofemoropopliteal arterial reconstruction in arteriosclerosis obliterans**, 635
- India**, heart disease in, 325-326, 343
- Indicator dilution curves**, *see* Dilution curves
- Infarction**  
atrial, electrocardiography in, 730

- bowel, surgery in, 633
- cardiac, and atherosclerosis, 618
- cerebral, anticoagulants in, 56-65
- myocardial  
anticoagulant therapy in, 953  
long-term, 746  
armchair treatment, 1149  
clinical aspects of, 302  
cyclo-oxygenase in arrhythmias, 1150  
and coronary thrombosis, segmental, 672  
employment after, 954  
fatal, in hypercholesterolemia, 975  
fibrinolysis in, 684, 746, 766  
high altitude tolerance in, 1150  
immunologic differentiation of serum lipoprotein fractions, 978  
interventricular septal rupture with, 128-132  
postinfarction syndrome, 371-380  
estrogen therapy in, 736  
predictors of, 1011-1025  
recurrent, sublingual, heparin affecting, 699  
and serum enzyme activity, 302, 465  
serum lipoprotein fractions in, 665, 978  
with shock, closed chest extracorporeal circulation in, 722  
in ulcer patients with high milk diets, 992  
vectorcardiography in, 759
- Influenza virus**, pericarditis with, 660
- Inosine**, effects on frog ventricle, 133
- Insufficiency**  
aortic, from valvular fenestration, repair of, 587-589  
cardiorespiratory, right ventricular subendocardial layers in, 957  
circulatory, posthypothermic, transfusion and noradrenalin affecting, 672  
coronary, and left ventricular ejection viscosity, 666  
mesenteric artery, 685  
mitral, 147, *see also* Mitral insufficiency  
pulmonary, congenital, 554-560  
tricuspid, mitral valvulotomy affecting, 360-366  
venous, hydrostatic pressure stocking in, 1043-1048  
ventilatory, 308

## Insulin

- effects on atherosclerotic plaques, 990  
hypoglycemia from, *see* Glucose
- Intestinal wall arteries in hypertension**, 464

- Iodine**, radioactive, and triolein, tolerance curve in diabetes, 764

- Iproniazid**, in angina pectoris, 1-3, 17-23

## Ischemia

- coronary, after gastrectomy, 302  
effects on cardiac intracellular electrical activity, 304  
myocardial  
electrocardiography in, 725  
in rat, 134  
and ventricular fibrillation threshold, 733

## Ischemic heart disease

- atherosclerosis in, 1143  
clearing factor in, 677  
coronary arteriography in, 960  
heparin activated lipemia clearing system in, 1144

## Ischemic necrosis

- levarterenol causing, 136  
in shock, prevention of, 789

- Isoniazid**, effects on serum cholesterol, 979

- Isoprenaline isomers**, action of, 134

- Isopropenamine**, effects on renal vessels, 135

## Isoproterenol

- dichloro analog of, cardiac blockade from, 136  
effects on aorta electrolytes, 624  
effects on renal vessels, 135  
and renal function in heart failure, 764  
in Stokes-Adams attacks with heart block, 757

## J

- JB 516**, in angina pectoris, 617

## K

- Keto-glutaric acid**, serum, in heart failure, 617
- Khellin**, effects of, 959
- Kidneys**, 140, 310, 624  
adrenal steroids affecting renal response to acetazolamide, 140  
in aortic coarctation, 625  
arteries  
atheromatous plaques in, 985  
autopsy studies, 518, 525

**Kidneys (Cont'd)**

- constriction diagnosis, 740
- diameter of, 140
- stenosis of, and arteritis of aorta, 856-862
- biopsies, 147
- Bright's disease, 16
- diuretics affecting, 624, *see also* Diuresis
- in femoral arteriovenous fistula, 634
- function after aortography with large contrast medium doses, 142
- glomerulonephritis, acute, 190-199
  - familial, after streptococcus, 310
- Goldblatt removal of, and cure of malignant hypertension, 757
- and heart failure, 273-283
  - isoproterenol affecting, 764
- hypertension, *see* Blood pressure
- hypothermia affecting tubular transport mechanisms, 311
- nephrosclerosis
  - and atherosclerosis, autopsy studies, 527-535
  - and hypertension in absence of adrenal gland, 986
  - malignant, and hypertension, therapy affecting renal lesions in, 228
- nephrotic syndrome, 310
- plasma flow in medulla, 729
- in pulmonary disease and cor pulmonale, 763
- regulation of water balance and plasma sodium concentration, 311
- sodium excretion in pregnancy and hypertension, 141
- sulfhydryl changes in, diuresis affecting, 958
- sympathomimetic drugs affecting renal vessels, 135
- transplants, antihypertensive effect of, 715
- unilateral renal disease, experimental, 140
- vascular resistance
  - blood flow changes affecting, 305
  - renal vein pressures affecting, 311
- veins
  - pressor substance in blood, in arterial hypertension, 717
  - pressure changes, effects of, 311
- veratridine affecting, 958

- Krypton, radioactive, in detection of cardiac shunts, 730
- Kymography of cardiac cycle, 143

**L**

- Lactate, molar sodium, in quinine intoxication, 623
- Lactic Acid
  - acidosis from, 715
  - myocardial, in cardiac arrest, 708
- Lactic dehydrogenase, after myocardial infarction, 302
- Lactones, and ventricular potassium balance, 466
- Leriche's syndrome, 146
- Levarterenol, *see* Epinephrine
- Ligation
  - of coronary artery, effects of, 302, 1149
  - of mammary artery, in angina pectoris, 701
  - of patent ductus, cardiovascular changes after, 627
- Linoleic and linolenic acids, effects on cholesterol levels, 298
- Lipemia
  - carbohydrates affecting, 964
  - coagulation and blood lipids in, 987
  - effects on coronary and peripheral arterial circulation, 298
  - effects on tissue oxygen tension, 716
  - and heparin clearing, 1144, 1145
  - hyperlipemia
    - hypocholesterolemic effects of benzmalecene in, 762, 1075-1078
    - and intravascular clotting, 734
    - sulfated alginic acid in, 680
  - and ischemic heart disease, 677, 1144
  - and myocardial blood flow changes, 723
  - plasma clearing, epinephrine affecting, 615
  - producing activity of pituitary gland, 968
- Lipids
  - blood levels
    - and coagulation in alimentary lipemia, 987
  - diet affecting, 29, 677
  - genetic and environmental factors in, 765
  - triiodothyropropionic acid affecting, 984
  - estrogens affecting, 234-241
  - material in aortas, 972

- metabolism changes in stress, 674
- origin in atheromatous lesions, 967
- plasma, fatty acids of, diet affecting, 720
- serum
  - in biliary obstruction, 977
  - dietary fat effecting, 615, 1144
  - diurnal levels in children with cystic fibrosis of pancreas, 986
  - nicotinic acid affecting, 1144
  - in vegetarians, 735
- Lipogenesis, aberrant, experimental, 615
- Lipoprotein levels
  - in atherosclerosis, 299, 671, 722
  - detergents affecting, 980
  - heparin affecting, 977
  - immunochemical reactions of, 978
  - immunologic differentiation of fractions, 978
  - liver function studies in hyperlipoproteinemia, 983
  - in myocardial infarction, 665, 1011-1025
  - nephelometric determinations in arteriosclerosis, 671
  - paper electrophoresis of, 722
  - phospholipids in, 299
  - protein component of, 985
  - thyroid hormones affecting, 988
  - ultracentrifugation, preparative, 675
- Lipoprotein lipase
  - in biliary obstruction, 977
  - in ischemic heart disease, 677
- Liver
  - blood flow and oxygen consumption in cardiopulmonary bypass, 780
  - bromsulphalein and saline infusions affecting hemodynamics, 743
  - cholesterol levels
    - dietary factors affecting, 964
    - MER-29 affecting, 965
    - and protein biosynthesis, 968
  - damage affecting renal hypertension, 731
  - function studies with elevated serum cholesterol and lipoprotein levels, 938
- Lungs, *see* Pulmonary conditions
- Lymph flow, renal venous pressure changes affecting, 311

**M****Magnesium**

- effects of, 135, 776
- localization in myocardium, 624

- Mammary artery**  
and coronary artery anastomosis, 702  
ligation in angina pectoris, 701
- Mannitol, diuretic action, 303**
- Marcumar, effects on thromboelastograms, 405-411**
- Marfan's syndrome, aortic rupture in, 300**
- Marsilid, in angina pectoris, 1-3, 17-23**
- Mecamylamine, effects of, 307, 463**
- Mediastinal**  
image, enlarged, prednisone in evaluation of, 674  
shadows from thoracic aorta, 142
- Medicine, academic and clinical, 321-324**
- Megakaryocytes, pulmonary and arterial thrombosis, 769**  
in thromboembolism, postoperative, 1146
- Mephentermine**  
effects on blood pressure, 741  
effects on renal vessels, 135
- MER-29, effects on cholesterol levels, 713, 730, 965**
- Meralluride, action of, 467**
- Mercurial diuretics, see Diuresis**
- Mersalyl, effects on kidney, 624**
- Mesenteric arteries**  
atherosclerosis, autopsy studies, 518, 525  
insufficiency, 685
- Metabolism, 133, 464, 631**  
aldosterone, *see* Aldosterone and atherosclerosis, 981  
cardiovascular disease with disorders, 670  
cell metabolism of failing heart, 464  
cholesterol, *see* Cholesterol myocardial  
in cardiac arrest, 708  
in heart failure, 1148  
norepinephrine, in pheochromocytoma, 957  
prednisone reversing cardiac edema, 465  
radioactive heparin studies, 689  
ribosides affecting frog ventricle, 133  
serum enzymes in myocardial infarction, 302, 465  
sodium  
in heart failure, 273-283  
in hypertension, 464  
stress, changes in, 674  
T-3 and cardiac hypertrophy, 133  
thyroid, *see* Thyroid
- Metaraminol**  
effects on blood pressure, 741  
effects on renal vessels, 135
- Methamphetamine, effects on renal vessels, 135**
- Methoxamine**  
effects on blood pressure, 741  
effects on renal vessels, 135  
in ventricular arrhythmias, 622
- Methoxyphenamine, effects on renal vessels, 135**
- Methoxypromazine, action of, 134**
- Methylaminoheptane, effects on renal vessels, 135**
- Methyl testosterone, and serum cholesterol levels, 970**
- Mevalonic acid, hepatic cholesterol synthesis from, MER-29 affecting, 965**
- Mictine, diuretic action, 303**
- Mio-pressin, in hypertension, 956**
- Mitral valve**  
apexcardiogram in disease, 669  
cardiac catheterization in disease, 690  
commissurotomy, *see* Commissurotomy, mitral  
insufficiency, 147  
cardiac catheterization in, 690  
congenital, 777  
operability in, 442-449  
pathologic anatomy of, 147  
phonocardiography of apical diastolic murmurs in, 461  
surgery in, 683  
left ventriculography in disease, 670  
operability in disease, 442-449  
pathologic anatomy of, 683  
regurgitation, *see* Regurgitation  
stenosis, *see* Stenosis  
working capacity in disease, 961
- MK-135, effects on serum cholesterol, 981**
- Monoamine oxidase inhibitor, new, 738**
- Mopazine, action of, 134**
- Morphine, effect on pulmonary compliance, 769**
- Mucopolysaccharides, arterial activity of, 975, 976**
- Murmurs**  
apical diastolic, in mitral insufficiency, phonocardiography of, 461  
carotid artery, 145  
of mitral stenosis with sinus rhythm, 780  
in newborn, 469  
of patent ductus, intermittent disappearance of, 768  
systolic, and velocity of blood flow in pulmonary artery, 304  
vasopressors affecting, 690
- Muscles**  
electrolytes affecting, 624  
familial muscular subaortic stenosis, 676  
nicotine affecting blood flow in, 760  
sphincters, as capillary component in heart, 35-41
- Mustard, pepper and ginger in hypertension, 673**
- Mycotic aneurysm of extremities, ruptured, 718**
- Myocarditis, chronic nonspecific, 770**
- Myocardium**  
anoxia and atrioventricular conduction, 679  
blood flow  
changes from lipemia, 723  
indicator-dilution studies, 736  
changes in potassium arrested hearts, 629  
contractility studies, 673  
depression in cardiac arrest, 785  
fibrosis, diffuse, diagnosis of, 606-613  
hypertrophy, idiopathic, 762  
hypophysectomy affecting, 785  
infarction, *see* Infarction  
injury in ventricular septal defect repair, 695  
ischemia, *see* Ischemia  
magnesium-28 localization in, 624  
metabolism  
in cardiac arrest, 708  
in heart failure, 1148  
myosins, 730  
necrosis  
after elective cardiac arrest, 739  
after pitressin in coronary atheromatosis, 991  
from stress, catecholamines in, 754  
oxygen gradient and S-T segment elevation, 459  
radioactivity and coronary plasma flow, 470
- Myofibrils, exercise affecting number of, 305**
- Myosins, myocardial, 730**
- Myxoma, cardiac, 631, 1151**  
left atrial pressure in, 413-418  
left ventricular, surgery in, 881-886
- N**
- Naphazoline, effects on renal vessels, 135**
- Nausea, acute hypotension from, 147**

**Necrosis**

- ischemic
  - levarterenol causing, 136
  - in shock, prevention of, 789
- myocardial
  - after elective cardiac arrest, 739
  - after pitressin in coronary atheromatosis, 991
  - from stress, catecholamines in, 754

**Necrotizing angitis**, cutaneous forms of, 466**Negro**, electrocardiograms of, 906-909**Neomycin**, effects on serum cholesterol, 774, 979**Nephelometric lipoprotein determinations in arteriosclerosis**, 671**Nephritic conditions**, *see* Kidney**Nervous humoral responses to blood loss**, 137**Neurohypophysis**, *see* Pituitary**Neurology**

- carotid sinus nerve stimulation, effects of, 306
- disorders in aortic stenosis, 266

**Nicotine**

- antinicotinic substances, evaluation of, 462
- and coronary heart disease, 113
- effects of smoking, 136
- on blood flow in hand, 634
- on blood sugar, 224-227
- on digital circulation in peripheral vascular disease, 696
- on muscle blood flow, 760
- on pulmonary function, 760

**Nicotinic acid**

- in atherosclerosis, 987
- effects on bile acids, 984
- effects on fibrinolysis, 989
- effects on serum lipids, 1144
- and hypercholesterolemia, 671
- metabolic effects of, 747

**Nicoumalone**, 1147**Nitroglycerin**, and pulmonary arterial pressure in left ventricular failure, 952**Nitrous oxide in plethysmographic blood flow measurement**, 720**Novobiocin**, effects on serum cholesterol, 979**Nylidrin**, effects on renal vessels, 135**O****Obesity**

- and atherosclerosis, autopsy studies, 527-535

## circulatory dynamics in, 662

## and pulmonary function, 309

## weight reduction in hypertension, 693

**Obliterative disease**, arterial, 635, 784, 979**Obstruction**, biliary, lipoprotein lipase and serum lipids in, 977**Occlusion**

## of aorta and femoral arteries, 144

## arterial

## localization of, 714

## temperature-oxygen uptake changes in, 304

## of carotid arteries, 4-13

## cerebrovascular, surgery in, 168-180

coronary artery, *see* Coronary arteries

## total circulatory, hypothermia after, acidosis in, 685

**Osteoarthropathy**, secondary hypertrophic, 132**Ouabain**, and ventricular potassium balance, 466**Oximeter amplifier in cardiac catheterization**, 782**Oxygen**

## anoxia

- cardiac contractility in, 470
- myocardial, and atrioventricular conduction, 679

## consumption

- and hepatic blood flow, in cardiopulmonary bypass, 780
- hypoxia affecting, 307

## myocardial

## catecholamines affecting, 623

## changes from lipemia, 723

## cost of breathing, 710

## diffusing capacity and pulmonary hemodynamics, 751

## effects on pulmonary vascular resistance, 66-73

## gradient, myocardial, and S-T segment elevation, 459

## hypoxia, 307

## forearm vascular resistance in, 138

## peripheral venous tone in, 688

## and pulmonary hypertension, 960

## inhalation, pulmonary capillary proliferation from, 308

## saturation

## oximeter amplifier measuring, 782

## in sickle cell anemia of childhood, 770

## tissue supersaturation, effects of, 712

## in Valsalva maneuver, 574-585

## tension

## arterial, in exercise, 472

## in extracorporeal circulation, 749

## tissue, lipemia affecting, 716

## in vasodilated skin, 751

## uptake

## arterial blood pH changes affecting, 744

## and temperature changes in arterial occlusion, 304

## and tissue temperature in resting conditions, 305

**Oxygenators**, *see* Extracorporeal circulation**Oxytetracyclin**, effects on serum cholesterol, 979**P****Pacemaker**

## artificial, in coronary arteriography, 726

## electric, in ventricular fibrillation, 294-296

## external, P wave pacemaker, 775

## internal, in slow heart rates and cardiac arrest, 668

## ventricular, in A-V heart block, 668

**Pancreas**, cystic fibrosis of, in children, diurnal serum lipid levels in, 986**Papain atherosclerosis**, 975**Para-aminosalicylic acid**, effects on serum cholesterol, 979**Paraplegics**, hypertension in, 734**Paritol**, in hyperlipemia and hypercholesterolemia, 680**Pathology**, 134, 466, 957**Patulin**, and ventricular potassium balance, 466**Pediatrics**, *see* also Congenital anomalies

## aortic coarctation, 668, 710

## arteritis of abdominal aorta, 856-862

## ballistocardiography in newborn, 669

## cystic fibrosis of pancreas and diurnal serum lipid levels, 986

## digitalis dosages, 665

## heart size in children after rheumatic fever, 697

## pulmonary hypertension with systemic-pulmonary communications, 744

## sickle cell anemia, 770

## surgery in newborn, 629

## tape-recorded heart sounds in screening for heart disease, 887-895



- upright T waves in right precordial leads, 753  
ventricular septal defects, 733  
heart block in repair of, 725  
repair in infancy, 632
- Penicillin**, in tonsillar streptococcal infection, 764
- Pentolinium**, in hypertension, 463
- Pepper**, mustard and ginger in hypertension, 673
- Pericardial effusion**  
in heart failure, 787  
without tamponade, 1095-1104
- Pericarditis**  
acute idiopathic, 772  
constrictive, 956  
coronary, 687  
with influenza virus, 660
- Peripheral vascular conditions**  
arteriography, intravenous, 774  
circulation, in sickle cell crises, 735  
diffusion indicating circulatory efficiency, 661  
dynamics of bowel function, 635  
grafts, 630  
lipemia affecting circulation, 298  
pulse, exercise affecting, 620  
smoking affecting digital circulation in disease, 696  
venous distensibility in hypertension, 787  
venous tone, in hypoxia, 688
- Pharmacology**, 134, 303, 466, 622, 958
- Phenothiazine derivatives**, effects in shock, 717
- Phenoxybenzamine**  
plasma epinephrine after, 622  
urinary epinephrine after, 622
- Phentolamine and levarterenol**, preventing ischemic necrosis, 789
- Phenylbutazone**, in arteritis, temporal, 313
- Phenylephrine**  
effects on blood pressure, 741  
effects on renal vessels, 135
- Phenylpropanolamine**, effects on renal vessels, 135
- Phenylpropylmethylamine**, effects on renal vessels, 135
- Pheochromocytoma**  
colorimetric urinary analysis in, 701  
norepinephrine metabolism in, 957  
in pregnancy, 621
- Phlebotomy**, bloodless, effects on plasma volume and red cell mass, 763
- Pholedrine**, effects on renal vessels, 135
- Phonocardiography**, *see also* Heart sounds  
in apical diastolic murmurs in mitral insufficiency, 461  
in atrial septal defect, 490-497, 1087-1093  
fourth heart sounds, 742  
new techniques, 703  
in patent ductus arteriosus, 759
- Phosphatidyl ethanolamine and serine**, affecting cholesterol levels, 970
- Phospholipids**  
genetic and environmental factors in levels of, 765  
origin in atheromatous lesions, 967  
in serum lipoproteins, in atherosclerosis, 299
- Photoelectric recording of dye curves**, estimating cardiac output, 1111-1117
- Phthalysulfathiazol**, effects on serum cholesterol, 979
- Physical signs**, 303, 469
- Physiology**, 136, 304, 470, 959
- Pilocarpine**, and coronary flow changes from epinephrine, 745
- Pitressin**  
in coronary atherosclerosis, myocardial necrosis after, 991  
effects on aorta electrolytes, 624
- Pituitary**  
lipemia-producing activity of, 968  
myocardial function after hypophysectomy, 785  
neurohypophysis stimulation and antidiuretic activity in blood, 305
- Plasma**  
cholesterol levels, *see* Cholesterol  
clearing system, components of, 977  
epinephrine, phenoxybenzamine affecting, 622  
and fat transport, epinephrine affecting, 615  
fibrinolytic activity, 42-54  
flow  
coronary, and myocardial radioactivity, 470  
in renal medulla, 729  
heparin levels, epinephrine affecting, 615  
lipids, fatty acids of, diet affecting, 720  
nonesterified fatty acids, exercise affecting, 697  
norepinephrine response to tilting in hypertension, 422-426
- sodium concentration, regulation of, 311  
steroids, ACTH affecting, in hypertension, 680  
volume  
depletion, and chlorothiazide action, 1028-1036  
posture and exercise affecting, 716  
rotating tourniquets affecting, 763
- Plasmin therapy**, 42-54, *see also* Fibrinolysin
- Platelet**  
clumping, in dicumarol therapy, 743  
count, heparin affecting, and extracorporeal circulation, 313
- Plethysmography**, *see also* Blood flow, Blood volume  
nitrous oxide method of blood flow measurement, 720  
pulse waves, 619
- Pneumothorax**, effects of, 719
- Polycythemia**  
hypervolemia in, 679  
pulmonary vascular changes in, 1151
- Polymyxin B sulfate**, effects on serum cholesterol, 979
- Popliteal artery**, iliofemoropopliteal reconstruction in arteriosclerosis obliterans, 635
- Porphyrin compounds**, effect on serum cholesterol, 663
- Posture**  
effects on baselines of ventricular performance, 897-904  
effects on plasma volume, 716  
effects on pulmonary capillary blood volume and membrane diffusing capacity, 138  
hypotension and norepinephrine response to tilting, 422-426
- Potassium**  
cardiac arrest from, *see* Heart, arrest  
effects on cardiac electrical potential, 711  
effects on hypothermic ventricular fibrillation, 472  
electrocardiographic changes after injections of, 773  
excretion in heart failure, 277  
levels in epinephrine-induced cardiac arrhythmias, 959  
loss, arrhythmia from, 291  
in red blood cells, and electrocardiography, 717

**Potassium** (*Cont'd*)

serum levels, in hypertension, 784

T waves after ingestion of, 955  
toxicity, digitalis affecting, 623  
ventricular balance, lactones affecting, 466

ventricular pacemaker in A-V heart block in hyperkalemia, 668

**Prednisone**

in evaluation of enlarged mediastinal image, 674  
reversing cardiac edema, 465

**Pregnancy**

anticoagulants in thrombophlebitis of, 1146  
carbon dioxide exposure in, and cardiac anomalies, 710  
cardiac surgery with, 143  
and coronary artery disease, 786  
fatal postpartum coronary artery disease, 618  
pheochromocytoma with, 621  
sodium excretion in, 141  
toxemia of, antihypertensive drugs in, 463  
twin gestation, 330  
vulval varicose veins in, 636

**Pressor amines**, smoking affecting, 225

**Pressure breathing**, positive, and pulmonary hemodynamics, 729, 769

**Pressure**, pulse and heart rate, 569-573

**Pressure stocking**, hydrostatic, in venous insufficiency, 1043-1048

**Promazine**, effects in shock, 717

**Promethazine**, effects in shock, 717

**Prosthetics**

arterial, 628  
artificial heart in chest, 722  
valvular, 683  
vascular, 631

**Protease**, second blood, 728

**Protein**

biosynthesis in liver, cholesterol levels affecting, 968  
component of serum lipoproteins, 985  
dietary, and cholesterol levels, 964  
serum

in hypertension, 133  
predicting myocardial infarction, 1010-1025

**Pseudoephedrine**, effects on renal vessels, 135

**Pulmonary conditions**, 139, 308, 473, 960

ammonia in alveolar air, 307  
ammonia excretion by lung, 473

aortic anastomosis, in tetralogy of Fallot, effects of, 749

**arteries**

changes in Eisenmenger's complex, 466  
mechanical properties of, 748  
pressures, *see* Blood pressure,

pulmonary thrombosis, 139  
artificial respiration in cardiac arrest, 705

atheroma, experimental, 1145

atherosclerosis, autopsy studies, 516, 522

biopsies during mitral commissurotomy, 309

blood flow, *see* Blood flow

**capillaries**

blood flow measurements, 720  
blood volume and membrane diffusing capacity, 138  
proliferation from oxygen inhalation, 308

carbon dioxide effects, *see* Carbon dioxide

cor pulmonale, *see* Cor pulmonale  
cyanosis of cardiopulmonary origin, 309

diffuse lung disease, electrocardiography in, 1067-1074

edema, treatment of, 1148  
affecting lung mechanics, 769

**embolism**

diagnosis of, 960  
fatal, 1145

**emphysema**

electrocardiogram in, 831-840  
roentgenology in, 960

function studies, smoking affecting, 760

gas exchange, lipemia affecting, 723

**hemodynamics**

and diffusing capacities of oxygen and carbon monoxide, 751

positive pressure breathing affecting, 729

hemorrhage, lethal, after aortography, 312

hypertension, 308, *see also* Blood pressure

megakaryocytes and arterial thrombosis, 769  
in thromboembolism, postoperative, 1146

membrane, artificial, in heart-lung machine, 313

obesity, effects of, 309

oxygen cost of breathing, 710, *see also* Oxygen

postoperative changes in tetralogy of Fallot, 693

radiation injury to lung, 636

renal hemodynamics in chronic lung disease, 763

respiration, *see* Respiration

spirometry and effort tolerance, 309

tetralogy of Fallot, *see* Fallot's tetralogy

**valvular**

insufficiency, congenital, 554-560

regurgitation, dye detection of, 561-567

stenosis, 632, *see also* Stenosis, pulmonic

valvulotomy, hemodynamics of, 691

**vascular changes**

from bronchoconstrictor drugs, 719

in central vascular engorgement, 472

with congenital heart disease, 301

in Eisenmenger's complex, 466  
in polycythemia, 1151

and vagal afferent activity, 470

vascular pressures in respiration, 781

vascular resistance, *see* Blood vessels, resistance

**veins**

anomalies of, 229

drainage, catheterization and cinefluorographs of, 667

transposition of, roentgenology of, 626

ventilatory insufficiency, 308

**Pulse**

carotid sinus nerve stimulation affecting, 306

peripheral, exercise affecting, 620

pressure, and heart rate, 569-573

**rate**

smoking affecting, 226

in 24 hours of usual activity, 391

wave abnormalities, arterial, in diabetes, 1106-1110

**Pulseless disease**, 267-271

**Pulvic acid dilactone**, and ventricular potassium balance, 466

**Purine ribosides** affecting frog ventricle preparation, 133

**Pyrimidine ribosides** affecting frog ventricle preparation, 133

**Pyrimidinediones**, diuretic action, 303

**Q****Quinidine**

in atrial fibrillation, 290

molar sodium lactate in intoxication from, 623  
toxic reactions, 685

## R

Radiation, *see* Roentgenology

Radio control of ventricular contraction in heart block, 139

Rauwolfia alkaloids, effects of, 468

Raynaud's disease, etiology of, 144

Raynaud's phenomenon, in scleroderma, 692

Recordil, in angina pectoris, 958

Regurgitation, valvular  
aortic

estimation of, 677  
multiple indicator-dilution curves in, 724

with rheumatoid spondylitis, 1151

indicator dilution curves in, 561-567, 752

double curves, 785  
multiple curves, 724

mitral

clinical evaluation of, 784  
after mitral commissurotomy, 779

multiple indicator-dilution curves in, 724

rheumatic, 780

pulmonic, dye detection of, 561-567

tricuspid, dye detection of, 561-567

Relaxin therapy in obliterative arterial disease, 979

Renal conditions, *see* Kidneys

Renin, effects on electrolytes, 725

Renoprival hypertension, DCA affecting, 621

Reserpine

arrhythmia from, 291

and cardiac depletion of nor-epinephrine, 467

Resin ingestion, effects on serum cholesterol, 981

Respiration

artificial, in cardiac arrest, 705  
breath-holding time, significance of, 721

cardiorespiratory studies before

and after surgery, 690

cardiorespiratory system of calves, 711

central regulation of, 470

effects on heart rate, 471, 679

failure, organic CO<sub>2</sub> buffers in, 735

head injury affecting, 749

insufficiency, 308

right ventricular subendocardial layers in, 957

oxygen cost of breathing, 710,  
*see also* Oxygen

pneumothorax affecting ventilation, 719

positive pressure breathing, and pulmonary hemodynamics, 729

pulmonary pressures in, 781  
work affecting, 542

Resuscitation, 705, 946-951

Retinal sheen, significance of, 694

Revascularization

cardiac, electropolarographic

evaluation of, 758

myocardial, and ventricular fibrillation threshold, 733

Reviews in cardiovascular disease, 147, 637

Rhabdomyoma of heart, surgery in, 704

Rheumatic fever, 141, 625

erythromycin prophylaxis in, 715

heart size after, in children, 697

mimetic features of recurrences, 692

mitral regurgitation in, 780

prolonged freedom from, and streptococcal infections, 776

and streptococci, in Miami, 625

in twins, 778

visceral changes in, cortisone affecting, 141

Rheumatic heart disease

and atherosclerosis, autopsy studies, 527-535

cerebral embolism in, 147

exercise affecting, 692

factors in course of, 737

intra-cardiac acetylcholine infusion affecting, 671

Rheumatoid spondylitis, aortitis and aortic regurgitation with, 1151

Rhythm

antiarrhythmic effects of sympathomimetic agents, 755

arrhythmias, 286-297

atrial, 451-458

in cor pulmonale, 748

epinephrine-induced, potassium levels in, 959

interpretation of, 997-1001

in myocardial infarction, co-carboxylase in, 1150

in syncope, 306

ventricular, methoxamine in, 622

fibrillation, *see* Fibrillation

flutter, atrial, 451-458

gallop rhythm, 147, 703, 761

summation, 469

sinus

left ventricular dynamics in, 778

with murmur of mitral stenosis, 780

tachycardia, *see* Tachycardia

Ribosides, purine and pyrimidine, effects on frog ventricle, 133

Ro 4-1038, hypotensive effects of, 738

Roentgenology, 312, 473, 626, 960,  
*see also specific procedures*

canine heart radiation, coronary artery ligation after, 302

cardiac efficiency studies, 473

cardiac thrombus, 626

dextrocardia, 664

dynapulse and impulse timing, 142

kymography of cardiac cycle, 143

mediastinal image, enlarged, prednisone in evaluation of, 674

mediastinal shadows from thoracic aorta, 142

mural calcification of left atrium, 144

persistent ductus arteriosus diagnosis, 473

preoperative evaluation of proximal aorta and branches, 702

pulmonary emphysema, 831-840, 960

pulmonary pressure studies, 716

radiation injury to aorta and lung, 636

subclavian arteries, 142

transposition of pulmonary veins, 626

Rolicton, diuretic action, 303

## S

Salt, *see* Sodium

Scleroderma, Raynaud's phenomenon in, 692

Septal artery anatomy, 1150

Serotonin

connective tissue lesions from, 766

pulmonary vascular effects of, 719

vascular lesions from, 766, 972

and vascular tone, 467

Serum

albumin, radioactive iodinated, in cardiac output determinations, 734

alkaline phosphatase levels, epinephrine affecting, 621

alpha-keto-glutaric acid, in heart failure, 617

**Serum (Cont'd)**

- chloroform treatment, and second blood protease, 728
- cholesterol, *see* Cholesterol
- electrolyte changes after extracorporeal circulation, 310
- enzymes, and myocardial infarction, 302, 465
- lipids, *see* Lipids
- proteins
  - in hypertension, 133
  - predicting myocardial infarction, 1010-1025
- sodium levels, in hypertension, 784
- thrombosis from, 864-872
- transaminase levels
  - epinephrine affecting, 621
  - and myocardial infarction, 302, 465
- triglycerides, heparin affecting, 976

**Shock**

- from blood volume exchange, 686
- cardiogenic, 707
- catecholamines in, 741
- disseminated intravascular coagulation in, 952
- ischemic necrosis in, prevention of, 789
- with myocardial infarction, closed chest extracorporeal circulation in, 722
- vasopressor amines and phenothiazine affecting, 717

**Shunts, cardiac**

- left-to-right, detection of, 768
- gas chromatography in, 754
- indicator-dilution curves in, 875-879
- radioactive krypton detecting, 730
- tracers detecting, 783
- Valsalva maneuver in, 574-585

**Sickle cell anemia**

- in children, 770
- crisis of, peripheral circulation in, 735

**Sintrom, anticoagulant action of, 616****Skin**

- necrotizing angitis of, 466
- small vessels of dermis and subcutis, 633
- temperature of, smoking affecting, 226

**Smoking, *see* Nicotine****Sodium**

- bananas as low-sodium staple, 297
- depletion affecting blood vessels, 707
- diuretic response to intravenous isotonic saline, 140

**excretion**

- in hypertension, 141, 498-508
- in pregnancy and hypertension, 141
- rates affecting  $\text{Na}^{22}$  kinetics, 762

**metabolism**

- in heart failure, 273-283
- in hypertension, 464

**plasma concentration, regulation of, 311****saline infusions, effects on hepatic hemodynamics, 743****serum levels, in hypertension, 784****Sodium lactate, molar, in quinine toxicity, 623****Specialization in medical practice, 481-489****Sphincter capillaries of heart, 35-41****Spirolactones, as aldosterone antagonist, 303****Spirometry, in heart and lung diseases, 309****Spironolactone (SC-9420), antihypertensive effect of, 713****Splenic vessels**

- aneurysms, arterial, 146
- arteriovenous fistula of, 635
- atherosclerosis, autopsy studies, 518, 525

**Spondylitis, rheumatoid, aortitis and aortic regurgitation with, 1151****Staphylococcal infections of heart, 96-107****Stenosis**

- aortic, *see* Aortic valve
- mitral
  - cardiac catheterization in, 690
  - and gallstones, 143
  - heart sounds in, glycosides affecting, 467
  - hemodynamics of, 243-250
  - and mural calcification of left atrium, 144
  - murmur with sinus rhythm, 780
  - operability in, 442-449
  - pulmonary artery pressure in, roentgenologic quantitation of, 716
  - pulmonary vascular resistance in, 850-854
  - retrograde transpulmonary propagation of AC wave in, 718
  - tricuspid insufficiency with, mitral valvulotomy affecting, 360-366
- pulmonic, 632
- auscultation in, 666

**infundibular, without septal defects, 688****open heart surgery in, 700, 714 with right ventricular defect, 732****with right ventricular hypertension, open heart surgery in, 714****of renal arteries, and arteries of aorta, 856-862****tricuspid, clinical recognition of, 751****Sternum defects in congenital syndrome, 396-404****Steroids**

- adrenal, *see* Adrenal gland
- fecal, 968
- inotropic effects on cardiac tissue, 777
- plasma levels, ACTH affecting, in hypertension, 680

**Stethoscope efficiency, and auditory canal variations, 706****Stokes-Adams attacks, with heart block, isoproterenol in, 757****"Straight back" syndrome, 754****Strength of heart, 807-811****Streptococci**

- after prolonged freedom from rheumatic fever, 776
- glomerulonephritis from, 310
- prevalence of types in Syracuse, 693
- and rheumatic fever in Miami, 625
- of tonsillar tissue, penicillin preventing, 764

**Streptokinase, effects on fibrinolysis, 42****Streptomycin, effects on serum cholesterol, 979****Stress, *see also* Emotions**

- effects on coronary heart disease, 112
- heat, effects of, 544
- metabolism changes in, 674
- myocardial necroses from catecholamines in, 754

**Stroke volume**

- in arteriovenous fistula, systemic, 1081
- and cardiac output, 781
- and central blood volume, 305

**SU-5864, antihypertensive effects of, 756****Subclavian arteries**

- roentgenology of, 142
- surgical anatomy of, 634

**Sulfhydryl changes in kidney, diuretics affecting, 958****Surgery, 143, 313, 627, 961**

- anastomoses
- aortic-pulmonary, in tetralogy

- of Fallot, 749  
 coronary, 702, 786, 812-814, 816-821, 1149  
 in angina pectoris with obliterating coronary arteriosclerotic heart disease, 683  
 in aortic aneurysms, dissecting, 684  
 aortic commissurotomy, direct vision, 143  
 in aortic stenosis, 633, 723  
 open operation, 702  
 in aortic valvular fenestration, 587-589  
 aortography, preoperative, in arteriosclerosis of lower extremities, 312  
 arrhythmias, postoperative, 291-292  
 in arteriosclerosis obliterans, 635, 683  
 in atrial septal defects, 242  
 bacterial endocarditis, postoperative, 712, 955  
 biochemical alterations during, 771  
 Blalock-Taussig operation, 778  
 cardiopulmonary studies before and after, 690  
 in carotid artery occlusion, 12  
 in cerebrovascular atherosclerotic disease, 168-180  
 commissurotomy, mitral, *see* Commissurotomy  
 in coronary artery disease, 665, 739, 954, 1149  
 advanced, 682  
 ligation after radiation of canine heart, 302  
 ligation of right artery, 1149  
 coronary artery topography, 628  
 coronary curettage, 954  
 electrocardiography, postoperative, 461, 779  
 endarterectomy in coronary artery disease, 665  
 in Fallot's tetralogy  
 paradoxical results of, 823-829  
 and postoperative lung changes, 693  
 results of, 627, 749  
 gastrectomy  
 cardiovascular changes after, 637  
 coronary ischemia after, 302  
 grafts, *see* Grafts  
 in hypertension, selection of patients, 462, 673  
 hypothermia in open heart surgery, 701, *see also* Hypothermia  
 kidney transplants, 715  
 ligation, *see* Ligation  
 mammary artery ligation in angina pectoris, 701  
 mitral commissurotomy, 87, *see also* Commissurotomy  
 mitral disease, operability in, 442-449  
 in mitral insufficiency, 683  
 myocardial infarction during, and serum enzyme levels, 465  
 in myxoma, left ventricular, 881-886  
 in newborn, 629  
 in occlusive disease of aorta and femoral arteries, 144  
 open heart surgery, *see also* Extracorporeal circulation  
 in aortic stenosis, 702  
 in aortic valvular fenestration, 587-589  
 in pulmonic stenosis, 700, 714  
 in rupture of aneurysm of sinus of Valsalva, 633  
 outflow tract patch, 775  
 patent ductus ligation, cardiovascular changes after, 627  
 in pregnancy, 143  
 prosthetics, *see* Prosthetics  
 pulmonary valvectomy, 691  
 in pulmonic stenosis, open operation for, 700, 714  
 reconstructive vascular surgery, 633  
 in rhabdomyoma of heart, 704  
 in septal defects, cardiac, 688  
 sympathectomy in hypertension, 462  
 thromboembolism, postoperative, pulmonary megakaryocytes in, 1146  
 thrombus formation, postoperative, prevention of, 1147  
 in triatrial heart, 723  
 valve leaflet construction, aortic, 691  
 in valvular pathology, 683  
 veins, vital, replacement of, 630  
 in ventricular septal defect, 627, 721  
 in childhood, with heart block, 725  
 in infancy, 632  
 ventriculoplasty, 251-253  
**Sympathectomy**, in hypertension, 462  
**Sympathomimetic agents**  
 antiarrhythmic effects of, 755  
 effects on renal vessels, 135  
**Syncope**  
 arrhythmias in, 306  
 from fear, dynamics of, 147  
**Systole**  
 duration in atrial fibrillation, 706  
 pressures in aortic stenosis, 1049-1052  
 stimulation at necropsy, 74-86
- T**
- T-3**, cardiac hypertrophy after, 133  
**Tachycardia**  
 atrial, 451-458  
 paroxysmal, with block, and digitalis, 468  
 with bundle-branch block, QRS complex changes in, 743  
 induced, 138  
 ventricular  
 with bundle-branch block, QRS complex changes in, 743  
 with cardiac aneurysm, surgery in, 251-253  
 electrical activity after, 471  
 multiple sounds in, 286-287  
 paroxysmal, 460  
 treatment and prevention of, 294  
**Takayasu's disease**, 267-271, 856-862  
**Tamponade**, cardiac, ventricular pressures in, 695  
**Tape-recorded heart sounds in screening for childhood heart disease**, 887-895  
**TEAC test**, diagnostic specificity of, 742  
**Temperature**  
 of body, downward drift, in hypothermia, 708, *see also* Hypothermia  
 environmental, effects on cardiac output, 472  
 fever, *see* Fever  
 of skin, smoking affecting, 226  
 tissue, and oxygen uptake  
 in arterial occlusion, 304  
 in resting conditions, 305  
**Testosterone**, effects on aortic atherosclerosis, 993  
**Tetraethylammonium chloride test**, diagnostic specificity of, 742  
**Tetrazotized diorthoanisidine**, action of, 135  
**THAM**  
 and arterial blood pH levels, 744  
 in respiratory failure, 735  
**Theophylline**  
 diuretic action, 303  
 in heart failure, 1148  
**Thiazide derivatives**, diuretic action of, 699  
**Thromboangiitis obliterans**, 784  
 Relaxin therapy, 979



**Thromboelastogram**, coumarin derivatives affecting, 405-411

**Thromboembolic disease**

coagulation factors, *see* Coagulation

embolism, *see* Embolism

fibrinolytic therapy, *see* Fibrinolysin

in myocardial infarction, anticoagulants affecting, 953

postoperative, pulmonary megakaryocytes in, 1146

**Thrombogenic diet**, effects on fibrinolysis, 989

**Thrombophlebitis**

fibrinolysin affecting, 742

in pregnancy, anticoagulant therapy, 1146

**Thrombosis**

abdominal venous, in cardiac patients, 145

aortic, 146

arterial, pulmonary megakaryocytes in formation of, 769

and atherosclerosis, 775, 974

cardiac

carotid auscultation in, 303

roentgenology of, 626

of carotid artery, 635

cerebral, anticoagulants in, 215-223

coronary

psychology of delayed recovery, 783

segmental, and myocardial infarction, 672

postoperative formation, prevention of, 1147

of pulmonary arteries, 139

serum-induced, 864-872

**Thymic enlargement**, prednisone in evaluation of, 674

**Thymidine**, effects on frog ventricle, 133

**Thyroid**

digitalis antagonism, 698

and heart conditions, 134, 464

hormones

and cholesterol metabolism, 981

and partition of lipoprotein cholesterol, 988

reducing serum cholesterol, 979

hypothyroidism and cardiac disease, 134

metabolism, and arrhythmias, 292-294

therapy, and vitamin B factors in angina pectoris, 761

**Thyroxine**, reducing serum cholesterol, 979

**Tilting**, norepinephrine response to, 422-426

**Timing methods in roentgenology**, 142

**Tobacco**, *see* Nicotine

**Tonsils**, streptococci in, penicillin preventing, 764

**Tourniquets**, rotating, effects on plasma volume and red cell mass, 763

**Toxemia of pregnancy**, antihypertensive drugs in, 463

**Transaminase levels**

epinephrine affecting, 621

and myocardial infarction, 302, 465

**Transfusions**, rapid, and posthypothermic circulatory insufficiency, 672

**Transplants**, kidney, antihypertensive effects of, 715

**Transposition**

of great vessels

acyanotic, 740

with atrial septal defect, 842-848

of pulmonary veins, roentgenology of, 626

**Tricuspid valve**

insufficiency, with mitral stenosis, mitral valvulotomy affecting, 360-366

regurgitation, dye detection of, 561-567

stenosis, clinical recognition of, 751

**Triglycerides**, serum, heparin affecting, 976

**Trifluoropropionic acid**, effects on blood lipids, 984

**Triolein**, and radioactive iodine, tolerance curve in diabetes, 764

**Tripantanol**, effects on cholesterol levels, 713, 730, 965

**Tromexan**, effects on thromboelastograms, 405-411

**Tropical weather** affecting cardiac output, 472

**Tuaminopheptane**, effects on renal vessels, 135

**Tumors**

atrial, ultrasonic echo diagnosis of, 955

carcinoma, bronchogenic, cardiac involvement, 758

myxoma, cardiac, 631, 1151

left atrial pressure in, 413-418

left ventricular, surgery in, 881-886

rhabdomyoma of heart, surgery in, 704

**Twins**

congenital cardiovascular an-

omalies in, 327-342

rheumatic fever in, 778

**U**

**Ulcer patients**, high milk diets for, and myocardial infarction, 992

**Ulcers**, in venous insufficiency, hydrostatic pressure stocking in, 1043-1048

**Ultrasonic echo technic in cardiac diagnosis**, 462

in atrial tumors, 955

**Urea**, diuretic action of, 303

**Uridine**, effects of frog ventricle, 133

**Urine**

adrenocortical hormones, in hypertension, 700

catecholamine excretion changes in stress, 674

colorimetric analysis, in pheochromocytoma, 701

dilution and concentration, 147

epinephrine after phenoxymethylamine, 622

flow rate, renal venous pressure changes affecting, 311

returned to circulation, renal hypertension from, 706

**Urokon**, in aortography, suitability of, 468

**V**

**Vagus**

afferent activity, and pulmonary congestion, 470

dynamics of vasovagal reactions, 705

stimulation, and cardiac arrest, 620

**Valsalva maneuver and oxygen saturation in shunts**, 574-585

**Valsalva sinus**

rupture of aneurysm of, 633

rupture to left atrium, 427-429

**Valves**, artificial, 722

**Valvular heart disease**, 143, 633, 961, *see also specific valves*

in carcinoid cardiovascular syndrome, 208

left ventricular-arterial blood volume in, 788

mural calcification of left atrium, 144

tracers detecting incompetence, 783

**Valvectomy**, pulmonary, hemodynamics of, 691

**Valvulotomy**, *see* Commissurotomy

- Varicose veins**, vulval, in pregnancy, 636
- Vascular disease**, 144, 313, 633, *see also* Blood vessels
- Vectrocardiography**  
 direct spatial, in right ventricular abnormality, 662  
 excitation wave spread in left ventricle, 755  
 large-screen cycloidal, 728  
 in myocardial infarction, 759  
 in right bundle-branch block, 201-206  
 rSr' in V<sub>1</sub>, 767
- Veins**  
 angioma, arteriovenous, and sacular aneurysm of brain arteries, 635  
 fistula, arteriovenous, *see* Arteriovenous fistula  
 insufficiency, hydrostatic pressure stocking in, 1043-1048  
 peripheral  
   distensibility in hypertension, 787  
   tone, in hypoxia, 688  
 pulmonary  
   anomalies of, 299  
   changes in Eisenmenger's complex, 466  
   drainage anomalies, catheterization and cinefluorographs of, 667  
   transposition of, roentgenology of, 626  
 renal  
   pressor substance in blood in arterial hypertension, 717  
   pressure changes in, effects of, 311  
 replacement of, 630  
 splenic, arteriovenous fistula of, 635  
 thrombosis, abdominal, in cardiac patients, 145  
 varicose, of vulva, in pregnancy, 636
- Vena cava constriction**, aldosterone secretion after, 465
- Venoarterial pumping**  
 in heart failure, 1148  
 and pulmonary hypertension, 686
- Ventilation**, *see* Respiration
- Ventricles**, *see also* Atrioventricular conditions  
 activation process, 709  
   for premature beats, 705  
   of septal surfaces in cardio-pulmonary bypass, 663  
 aneurysm of, with tachycardia, surgery in, 251-253  
 arrhythmias, methoxamine in, 622
- boundary conditions affecting potentials, 680  
 contraction in heart block, radio control of, 139  
 ectopic beats with coupling, 459  
 fibrillation, *see* Fibrillation  
 hypertrophy  
   electrocardiography in, 662  
   obstructive, 732
- left**  
 blood volume in valvular heart disease, 738  
 catheterization  
   retrograde, in congenital heart disease, 704  
   through carotid artery, 460  
   through femoral artery, 460  
 dynamics, in sinus rhythm and ectopic beats, 778  
 ejection velocity, and coronary insufficiency, 666  
 excitation wave spread in, 755  
 failure  
   hemodynamics in, 243-250  
   nitroglycerin affecting pulmonary arterial pressure in, 952  
   function after cardiac arrest, 676  
 hypertrophy  
   electrocardiogram in, 30-34, 687  
   with left bundle-branch block, diagnosis of, 766  
   myxoma, surgical removal, 881-886  
   pressure-volume curves, diastolic, 686  
   systolic pressures in aortic stenosis, 1049-1052  
 magnesium affecting action potentials, 776  
 pacemaker in A-V heart block, 668  
 posture affecting baselines of performance, 897-904  
 potassium balance of, lactones affecting, 466  
 pressure in cardiac tamponade, 695  
 purine and pyrimidine ribosides affecting, 133
- right**  
 conduction system, incision of, electrocardiogram after, 779  
 defect with pulmonary stenosis, 732  
 fistula with aorta, 1128-1131  
 hypertension of, with pulmonary stenosis, open heart surgery in, 714
- hypertrophy, differential diagnosis of, 201-206  
 selective increase of work, 955  
 subendocardial layers in cardiorespiratory insufficiency, 957  
 vectrocardiography in abnormality of, 662
- septal defect**  
 angiocardiology in, 626  
 electrocardiography in, 300  
 pulmonary hypertension with acetylcholine in, 383  
   in children, 744  
 rupture, and myocardial infarction, 128-132  
 studies in children, 733  
 surgical repair, 627, 688, 721  
   in childhood, heart block in, 725  
   in infancy, 632  
   myocardial injury with, 695  
 tachycardia, *see* Tachycardia  
 tropical weather affecting work of, 472
- Ventriculography**, left, in mitral valve disease, 670
- Ventriculoplasty**, in tetralogy of Fallot, outflow tract patch with, 775
- Ventriculotomy**, right, electrocardiography with, 695
- Veratridine**, renal action of, 958
- Vertebral arteries**  
 arteriography, 173  
 occlusion, surgery in, 171
- Viscosity of blood**, intravenous heparin affecting, 1063-1065
- Vitamin B factors and thyroid therapy**, in angina pectoris, 761
- Vitamin E therapy in intermittent claudication**, 145
- Vitamin K**, antiprothrombinopenic effect of, 622
- Vulval varicose veins in pregnancy**, 636

## W

- Water balance regulation**, 311
- Weather affecting cardiac output**, 472
- Weight reduction**, in hypertension, 695, *see also* Obesity
- Wolff-Parkinson-White syndrome**, 620  
 delta wave in, 696
- Work**, *see also* Stress  
 and arterial blood gas tensions, 472

**Work (Cont'd)**

- and cholesterol levels in Chicago utility company employees, 973
- and coronary artery disease, 113, 954, 955
- effects on myofibrils, 305
- effort tolerance in heart and lung disease, 309
- electrocardiography in, 461, 619
- after Master two-step exercise, 737, 738

- and heart disease, 537-548
- and mitral valvular disease, 961
- and peripheral pulse, 620
- and plasma nonesterified fatty acids, 697
- and plasma volume, 716
- and pulmonary capillary blood volume and membrane diffusing capacity, 138

- and rheumatic heart disease, 692
- WY 1359, effects in shock, 717

**X****Xanthine diuretics, 303**

- Xanthomatosis**, and familial hypercholesterolemia in coronary heart disease, 954

s]

e,

y-  
in  
e,